

# DOCUMENT RESUME

ED 258 645

JC 850 358

TITLE Alaska Statewide Plan for Postsecondary Education, 1986-1990: A Draft for Public Comment. Volume I.  
 INSTITUTION Alaska State Commission on Postsecondary Education, Juneau.  
 PUB DATE Jul 85  
 NOTE 11p.; For a related document, see JC 850 359.  
 PUB TYPE Reports - Descriptive (141)  
 EDRS PRICE MF01/PC05 Plus Postage.  
 DESCRIPTORS Access to Education; Accountability; Community Colleges; Cost Effectiveness; \*Educational Objectives; \*Educational Planning; Educational Quality; \*Postsecondary Education; Rural Education; State Universities; \*Statewide Planning  
 IDENTIFIERS \*Alaska

## ABSTRACT

This report, the first statewide master plan for postsecondary education in Alaska, outlines strategies and recommendations to achieve the following planning goals: (1) promote excellence to improve educational service; (2) enhance accountability of the educational process; (3) foster efficiency within the enterprise; and (4) improve access to those citizens who desire postsecondary education. Following an executive summary of goals and strategies, an introductory section traces the growth of postsecondary education in Alaska, discusses the dilemma of declining revenues, explains the master planning process and the goals of the master plan, and discusses the organization of the report. Chapter I explains the underlying assumptions about the planning period from 1986 to 1990, including rapid rates of population growth in selected areas, the continued availability of the Alaska Student Loan Program, increasing enrollments at the University of Alaska, declining state funding for education, and growth in the coal, mining, fishery, and tourism industries. Chapter II looks at the present state of postsecondary education in Alaska, identifying all existing institutions by type. Chapter III provides a brief overview and explanation of each goal of the master plan, and chapter IV presents the strategies for attaining each goal. (AYC)

\*\*\*\*\*  
 \* Reproductions supplied by EDRS are the best that can be made \*  
 \* from the original document. \*  
 \*\*\*\*\*

# ALASKA STATEWIDE PLAN FOR POSTSECONDARY EDUCATION 1986-1990

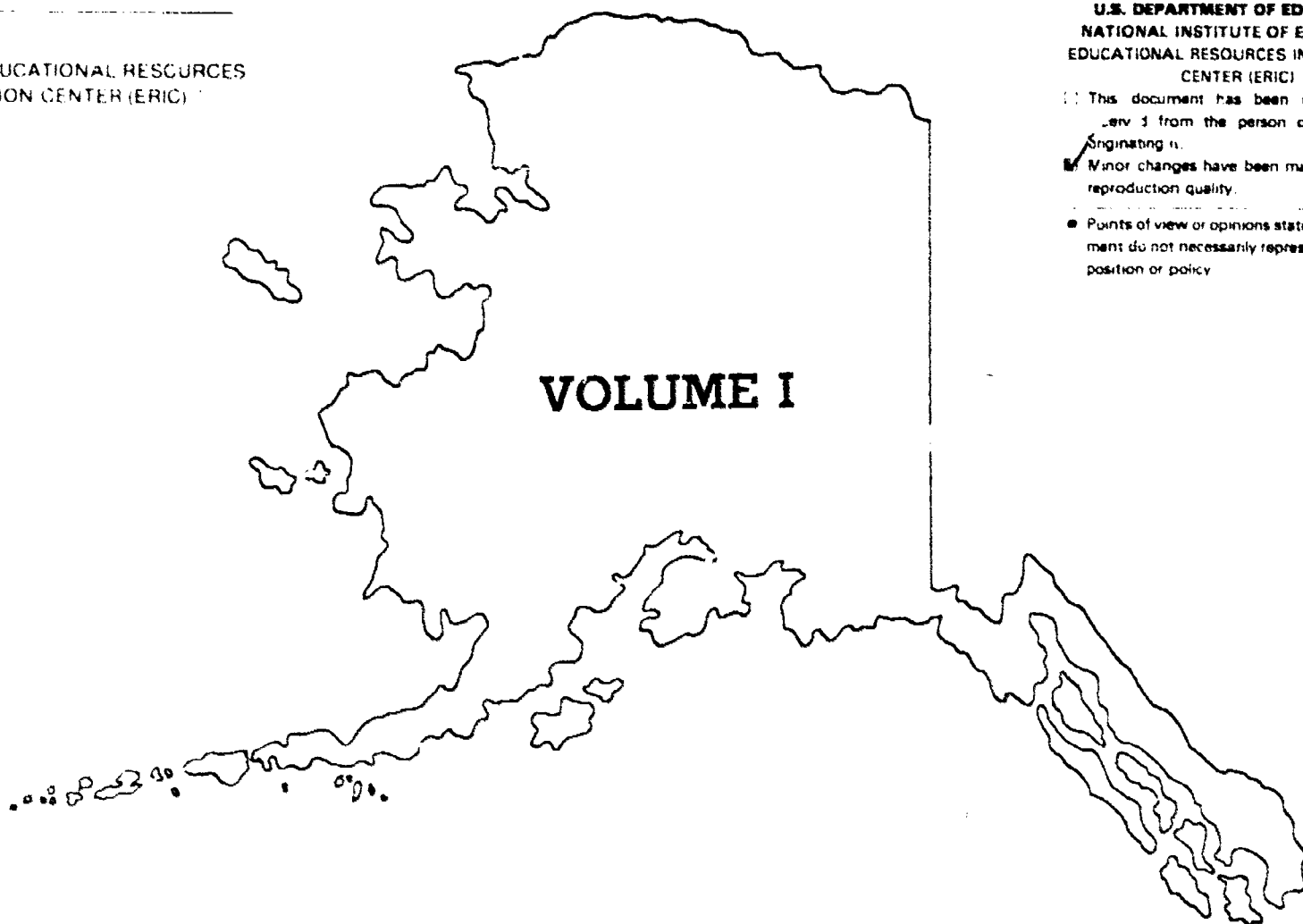
PERMISSION TO REPRODUCE THIS  
MATERIAL HAS BEEN GRANTED BY

P. Gulyas

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC)

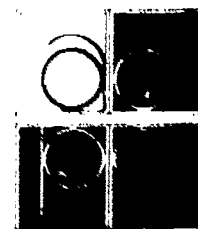
U.S. DEPARTMENT OF EDUCATION  
NATIONAL INSTITUTE OF EDUCATION  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

- ☐ This document has been reproduced as received from the person or organization originating it.
- ☒ Minor changes have been made to improve reproduction quality.
- ☐ Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.



## A DRAFT FOR PUBLIC COMMENT

ALASKA COMMISSION ON POSTSECONDARY EDUCATION  
JULY, 1985



ALASKA  
STATEWIDE PLAN FOR  
POSTSECONDARY EDUCATION

VOLUME I

A DRAFT FOR PUBLIC COMMENT

Alaska Commission on Postsecondary Education  
400 Willoughby Avenue, Pouch FP  
Juneau, AK 99811

ALASKA COMMISSION ON POSTSECONDARY EDUCATION

Ms. Barbara Shaffer, Chair  
Ms. Patricia Abney  
Ms. Ruth Burnett  
Ms. Patricia Clark  
Mr. Gordon Evans  
Ms. Ernestine Griffin  
Mr. John Havelock  
Mr. Richard Helms  
Senator Jalmar Kerttula  
Representative Niilo Koponen  
Ms. Bettye Smith  
Ms. Barbara Thompson

COMMISSION OFFICE

Dr. Kerry D. Romesburg  
Executive Director  
Alaska Commission on Postsecondary Education  
Pouch FP, 400 Willoughby Avenue  
Juneau, Alaska 99811

(907) 465-2854

## ACKNOWLEDGEMENTS

The strategies and recommendations contained in this document resulted from the contributions of a large number of very knowledgeable people. The Advisory Committee to the Commission was especially instrumental in the development and refinement of the recommendations. Also, several people associated with the University of Alaska furnished invaluable suggestions which served to render the plan more realistic and provided guidance so that it would be in concert with the fundamental concerns of the University. The University of Alaska Office of Institutional Studies was particularly helpful in supplying a great deal of information which helped to form the basis from which the strategies were developed. Finally, a host of other interested and perceptive citizens made suggestions which helped make the plan truly a statewide endeavor. The Commission owes each person a debt of gratitude and extends a warm thank you to all who participated.

# TABLE OF CONTENTS

	PAGE
Executive Summary . . . . .	i
Introduction . . . . .	1
Chapter I. Assumptions about the Future . . . . .	8
Chapter II. The Present State of Postsecondary Education in Alaska 1985. . . . .	11
Chapter III. The Goals of the Master Plan . . . . .	17
Chapter IV. Strategies. . . . .	22
GOAL: PROMOTE EXCELLENCE to improve educational service . . .	23
GOAL: ENHANCE ACCOUNTABILITY of the educational process . . .	36
GOAL: FOSTER EFFICIENCY within the educational enterprise . .	46
GOAL: IMPROVE ACCESS to accommodate those citizens who desire postsecondary education . . . . .	69

# LIST OF FIGURES

FIGURE		PAGE
1	Unrestricted Revenues FY77 - FY87 . . . . .	2
2	University of Alaska System . . . . .	12
3	UAF Student Retention . . . . .	27
4	UAA Student Retention . . . . .	27
5	UAI Student Retention . . . . .	28
6	Percentage of Bachelor Degrees Awarded by Institution 1982-84 . . . . .	56
7	Percentage of Master Degrees Awarded by Institution 1982-84 . . . . .	57

# LIST OF TABLES

TABLE		PAGE
1	Standard for the Generation of Student Credit Hours per FTE Faculty . . . . .	38
2	Student/Faculty Ratio Guidelines for the Allocation of FTE Faculty . . . . .	39
3	Duplicate Masters Degree Programs . . . . .	60
4	Percentage Contribution to the Local Community College Budget Using .5 Mill Assessment of 1984 Full Value Determination of Local Property . . . . .	78
5	Mill Rates on Full Value Determination of Local Property Needed to Fund 10, 20, and 30 Percent of the Local FY84 Community College Budget . . . . .	79
6	Participation Rates of First-Time Resident Enrollment in Public Institutions Per 1000 Population 1978 . . . . .	83



## EXECUTIVE SUMMARY

This is the first Statewide Master Plan for postsecondary education in Alaska. It is the result of a substantial amount of participation by a wide variety of Alaskan citizens. The plan is a statement of advocacy for postsecondary education. This support is reflected in the four goals toward which the plan is directed. The planning goals for postsecondary education in Alaska are:

- PROMOTE EXCELLENCE to improve educational service;
- ENHANCE ACCOUNTABILITY of the educational process;
- FOSTER EFFICIENCY within the educational enterprise; and
- IMPROVE ACCESS to accommodate those citizens who desire postsecondary education.

The following strategies are grouped according to the goal each promotes. It should be noted that some of the strategies contribute to more than one goal. For convenience, however, the strategies are associated with the goal with which each has the strongest relationship.

GOAL: PROMOTE EXCELLENCE to improve educational service.

STRATEGY 1. THE UNIVERSITY OF ALASKA IS URGED TO DEVELOP AN ASSESSMENT PROGRAM TO MEASURE THE IMPACT OF THE INSTITUTION'S CURRICULUM AND INSTRUCTION ON STUDENT LEARNING.

STRATEGY 2. THE COMMISSION ENCOURAGES THE UNIVERSITY OF ALASKA TO STUDY FURTHER THE RETENTION AND PROGRESSION PATTERNS OF THE ENTERING FULL-TIME STUDENTS.

STRATEGY 3. THE RECENTLY ESTABLISHED ALASKA PRIVATE SCHOOL ASSOCIATION, INC. IS ENCOURAGED TO STRENGTHEN ITS MEMBERSHIP AND TO ADDRESS THE QUALITY OF THE PROPRIETARY EDUCATIONAL PROCESS.

STRATEGY 4. THE COLLEGES AND UNIVERSITIES IN THE STATE ARE ENCOURAGED TO CONTINUE THOSE COURSES, PROGRAMS, AND ACTIVITIES WHICH SERVE TO ENHANCE THE AWARENESS AND RESPECT OF OTHER CULTURES.

GOAL: ENHANCE ACCOUNTABILITY of the educational process.

STRATEGY 5. THE UNIVERSITY OF ALASKA SHOULD DEVELOP GUIDELINES FOR THE ADDITION OF FACULTY AND STAFF AND USE THESE GUIDELINES IN ITS BUDGET REQUEST TO THE LEGISLATURE AND THE GOVERNOR.

STRATEGY 6. THE COMMISSION IS IN STRONG AGREEMENT WITH THE REPORT SUBMITTED TO THE ALASKA STATE LEGISLATURE FROM THE RURAL EDUCATION TASK FORCE AND ENCOURAGES THE UNIVERSITY TO TAKE IMMEDIATE ACTION IN DEVELOPING A COMPREHENSIVE PLAN FOR POSTSECONDARY EDUCATION SERVICES FOR RURAL/NATIVE ALASKANS.

STRATEGY 7. WITH CLOSE ATTENTION TO THE MISSION OF EACH OF THE UNIVERSITY CENTERS, THE UNIVERSITY OF ALASKA SHOULD CONTINUE TO ASSESS THE RELATIONSHIP OF RESEARCH TO INSTRUCTION AND PUBLIC SERVICE.

GOAL: FOSTER EFFICIENCY within the educational enterprise.

STRATEGY 8. THE UNIVERSITY OF ALASKA SHOULD INSTITUTE A COMMON COURSE NUMBERING SYSTEM TO FACILITATE THE AUTOMATIC TRANSFER OF CREDITS FOR EQUIVALENT COURSES AMONG THE UNITS AND, IN PARTICULAR, BETWEEN THE COMMUNITY COLLEGES AND THE FOUR-YEAR INSTITUTIONS.

STRATEGY 9. IN LIGHT OF DECLINING STATE REVENUES, THE SUMMER SESSION PROGRAMS AT THE UNIVERSITY OF ALASKA CAMPUSES SHOULD BE ADMINISTERED SO THAT DIRECT TEACHING COSTS ARE NOT EXCESSIVE RELATIVE TO REVENUES.

STRATEGY 10. IN ORDER TO ACCOMMODATE STUDENTS WHO ARE UNDERPREPARED FOR COLLEGE LEVEL WORK, THE CAMPUSES OF THE UNIVERSITY OF ALASKA SHOULD INSTITUTE DEVELOPMENTAL PROGRAMS WHICH ADDRESS SPECIFICALLY THE ACADEMIC DEFICIENCIES OF THEIR INCOMING STUDENTS.

STRATEGY 11. AS PART OF ITS ONGOING PROGRAM REVIEW, THE UNIVERSITY SHOULD CONTINUE TO AVOID UNNECESSARY DUPLICATION OF PROGRAMS AND GIVE SPECIAL ATTENTION TO DECISIONS ON ADDITIONAL PROGRAMS AT THE GRADUATE LEVEL.

STRATEGY 12. THE ADDITION OF NEW FACILITIES FOR THE UNIVERSITY OF ALASKA SHOULD CONTINUE TO BE THE RESULT OF CAREFUL PROGRAM PLANNING AND ONLY AFTER ALL ALTERNATIVES HAVE BEEN EXHAUSTED.

STRATEGY 13. TO IMPROVE THE QUALITY AND EFFICIENCY OF VOCATIONAL EDUCATION DELIVERY, THE DEPARTMENT OF EDUCATION AND THE UNIVERSITY OF ALASKA SHOULD INSTITUTE REGIONAL VOCATIONAL EDUCATION PROGRAMS BETWEEN THE HIGH SCHOOLS AND THE COMMUNITY COLLEGES.

STRATEGY 14. THE STATE SHOULD EXPLORE THE POSSIBILITY OF ENHANCING THE EFFICIENT USE OF EDUCATIONAL FACILITIES BY ENTERING INTO CONTRACTUAL RELATIONS WITH INDEPENDENT COLLEGES AND UNIVERSITIES IN ALASKA AND THEREBY REALIZE COST SAVINGS TO THE STATE.

GOAL: IMPROVE ACCESS to accommodate those citizens who desire postsecondary education.

STRATEGY 15. THE COMMISSION RECOGNIZES AND ENCOURAGES THE EDUCATIONAL CONTRIBUTION OF THE INDEPENDENT INSTITUTIONS OF HIGHER EDUCATION IN ALASKA.

STRATEGY 16. THE UNIVERSITY OF ALASKA, ALASKA'S INDEPENDENT UNIVERSITIES AND COLLEGES, AND ALASKA'S HIGH SCHOOLS SHOULD CONTINUE TO EXPLORE AND EXPAND HIGH SCHOOL ADVANCED PLACEMENT PROGRAMS TO ENHANCE ARTICULATION BETWEEN HIGH SCHOOL AND COLLEGE.

STRATEGY 17. THE UNIVERSITY OF ALASKA SHOULD CONTINUE TO EXPLORE AND IMPLEMENT SCHEDULING ALTERNATIVES THAT IMPROVE ACCESS FOR THE OLDER, PART-TIME STUDENT.

STRATEGY 18. THE STATE AND THE UNIVERSITY SHOULD EXPLORE THE POSSIBILITY OF PARTIALLY FINANCING THE COMMUNITY COLLEGES THROUGH LOCAL TAXING AUTHORITIES.

STRATEGY 19. THE UNIVERSITY OF ALASKA SHOULD BE ENCOURAGED, THROUGH BUDGETARY SUPPORT, TO EXPAND THE TELECOMMUNICATIONS EFFORT TO ENHANCE ACCESSIBILITY AND IMPROVE EDUCATIONAL DELIVERY. THE BUDGETARY SUPPORT SHOULD BE DIRECTED TOWARD INCREASED SUPPORT OF FACULTY DEVELOPMENT AND PRODUCTION OF SOFTWARE FOR TELEVISION AND COMPUTERS.

STRATEGY 20. TO INCREASE THE IN-STATE COLLEGE PARTICIPATION RATE OF HIGH SCHOOL GRADUATES, THE UNIVERSITY OF ALASKA SHOULD EXPAND ITS RECRUITMENT EFFORTS WITH PARTICULAR ATTENTION TO PROVIDING INFORMATION ABOUT THE AVAILABILITY OF IN-STATE ACADEMIC PROGRAMS.

STRATEGY 21. A STATE SCHOLARSHIP PROGRAM FOR EXCEPTIONAL STUDENTS SHOULD BE ESTABLISHED.

STRATEGY 22. THE COMMISSION ENDORSES THE GOVERNOR'S PROPOSED PACIFIC RIM FELLOWSHIP PROGRAM AND ENCOURAGES THE ACTIVE PARTICIPATION OF BOTH PUBLIC AND INDEPENDENT POSTSECONDARY INSTITUTIONS IN ALASKA TO FOSTER SUCH AN EXCHANGE OF STUDENTS BETWEEN PACIFIC RIM COUNTRIES.

STRATEGY 23. THE WICHE STUDENT EXCHANGE PROGRAM, THE WICHE REGIONAL GRADUATE EDUCATION PROGRAM AND THE WAMI MEDICAL EDUCATION PROGRAM SHOULD BE CONTINUED AND EXPANDED WHERE APPROPRIATE TO IMPROVE ACCESS TO GRADUATE AND PROFESSIONAL TRAINING OPPORTUNITIES.

STRATEGY 24. THE ALASKA STUDENT LOAN PROGRAM IS AN EFFECTIVE MEANS TO ELIMINATE FINANCIAL BARRIERS TO POSTSECONDARY EDUCATIONAL AND TRAINING OPPORTUNITIES FOR ALASKANS. IT SHOULD CONTINUE TO PROVIDE ALASKANS OPEN CHOICE AND OPEN ACCESS TO THESE OPPORTUNITIES.

## INTRODUCTION

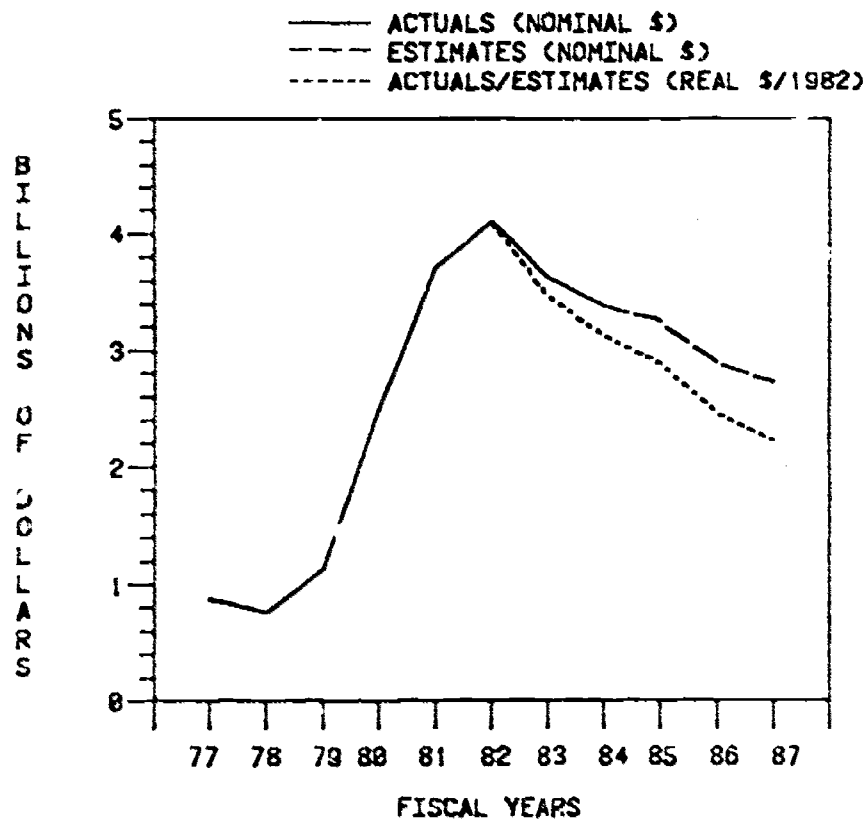
This is the first master plan for postsecondary education in Alaska. Although the Commission on Postsecondary Education is required by statute to "develop a comprehensive statewide plan for coordinated postsecondary education in the State" (AS 14.42.030), a plan was not attempted previously because there simply was not enough available information about the postsecondary community in Alaska. This was especially true for the University of Alaska. Remarkable efforts by the University community during recent years, however, have yielded a considerable amount of data about various facets of the postsecondary education enterprise. The enhancement of information, both in quantity and quality, has provided the framework upon which a realistic plan can be produced.

### THE GROWTH OF POSTSECONDARY EDUCATION IN ALASKA

It is fortuitous that a master plan for postsecondary education has been generated at this point in the history of Alaska. This land of cultural and linguistic diversity has recently enjoyed extraordinary largesse due to oil revenues. Indeed, during the past five years unrestricted general fund revenue has accounted for almost 75 percent of all the revenues collected since statehood. Figure 1 on the following page graphically illustrates this unprecedented phenomenon.

# FIGURE 1

## Unrestricted Revenues



Source: Alaska Department of Revenue

Publicly supported postsecondary education has shared and benefited from this bounty. For instance, the general fund operating and capital budgets of the University of Alaska have almost doubled during the past five years; the operating budget grew from \$88.5 million in FY 1980 to \$168.2 million in FY 1985, while the capital budget expanded from \$39.8 million to slightly over \$73 million. During the same period, student enrollment only increased by 33 percent.



Other segments of the publicly supported postsecondary education community have experienced substantial growth during the recent past. The Alaska Vocational Technical Center at Seward which enrolled 530 students in 1980, enrolled 1,560 students in 1984, an increase of 194 percent over the five-year period. Additionally, another publicly supported postsecondary vocational-technical center has been established; the Kotzebue Technical Center opened its doors in 1982 and at present enrolls approximately 65 students.

Independent postsecondary institutions have also flourished during recent years. Alaska Pacific University, Sheldon Jackson College and Alaska Bible College, among others, continue to provide alternative postsecondary opportunities to the citizens of Alaska. Moreover, the independent proprietary school sector, offering programs ranging from cosmetology to welding, has experienced rapid growth. The increasing popularity of proprietary schools is attested to by the fact that the number of schools has grown every year since the beginning of this decade.

Rounding out the community of postsecondary education in Alaska are those services provided in-state by out-of-state institutions. These non-Alaskan institutions offer a variety of programs to military personnel and other state residents. Schools currently offering course work in Alaska include: Brigham Young University, the Cleveland Institute of Electronics, Loma Linda University, the University of Dubuque Theological Seminary, and others. Without question, the people of Alaska have a keen and abiding interest in

postsecondary education and the evidence is clear that the State of Alaska has responded admirably.

#### THE DILEMMA OF DECLINING REVENUES

This planning effort is directed at where we go from here. Unfortunately, there are few easy answers. Weighing heavily in this process is the strong likelihood that the wealth to which Alaska has grown accustomed will not be continuing. According to the latest forecast by the Alaska Department of Revenue, the state will experience a steady decline of nominal or current dollars during the next five years, and a substantial decrease in real dollars (and therefore declining purchasing power). At the same time, the public postsecondary education community will (and should) continue to try to provide for the increasing educational needs of the students.

Herein lies the dilemma. How can the state fulfill its educational responsibility to its citizens while remaining fiscally responsible? One poignant example clearly illustrates the problem. The total worth of all the facilities of the University of Alaska is approximately \$410 million. The University's FY 1985 request of capital funds, for major projects alone, for the next five years totaled over \$750 million and the total capital request approached \$900 million! Despite this anticipated need, it appears quite unlikely that the State can afford to fund all, or even many, of these requests. The University, cognizant of dwindling revenues, has since placed a limit of \$300 million for major projects requests.

## THE MASTER PLAN PROCESS

Since very difficult choices will have to be made, it is crucial that the people affected by the decisions are convinced that their priorities are considered in a fair and equitable manner. It is fundamental that the citizenry have the opportunity to contribute to the planning process. Indeed, the goals and objectives of postsecondary education must be determined in an open marketplace of ideas and not be dictated by any single group or organization.

It is to these ends that the modus operandi of the plan was established. The procedures used for the development of this plan allowed for a substantial amount of participation by a wide variety of Alaskan citizens. The Commission itself is comprised of members who represent several constituencies within the postsecondary education community. An advisory committee to the Commission for the master plan provided for representation of those interests within the State that are associated with or served by postsecondary education. Moreover, preliminary drafts of the plan were distributed throughout the State to elicit suggestions from anyone who wished to comment.

A considerable amount of information was collected about postsecondary education in Alaska. This information, periodically updated, was shared with the Commission and the advisory committee. Regular meetings were held with officials of the University of

Alaska as the plan progressed. Moreover, as strategies were developed, they were shared with a variety of interested persons for comment and suggestions.

#### THE GOALS OF THE MASTER PLAN

This plan is a statement of advocacy for postsecondary education. The support is reflected in the four goals toward which the plan is directed. The planning goals for postsecondary education in Alaska are:

- PROMOTE EXCELLENCE to improve educational service;
- ENHANCE ACCOUNTABILITY of the educational process;
- FOSTER EFFICIENCY within the educational enterprise; and
- IMPROVE ACCESS to accommodate those citizens who desire postsecondary education.

Some of the strategies contained in this plan may relate to more than one of the goals. Also, inasmuch as each of the goals represent competing values, it is possible that a strategy may contribute to one of the goals and contravene another. Because this can and does occur, the strategies introduced tend to optimize rather than maximize each goal. That is, the attainment of each goal is subject to the constraints of fiscal and human resources and the demand placed upon the State for other services.

## THE ORGANIZATION OF THIS REPORT

This master plan is comprised of four chapters. Chapter I explains the assumptions about the future planning period from 1986 to 1990. Chapter II describes the state of postsecondary education today. Chapter III provides a brief overview and explanation of each goal of the master plan. Chapter IV presents the strategies which are grouped, with accompanying discussion, according to the goal with which each is associated.

## CHAPTER I

### Assumptions about the Future

Planning requires the identification of assumptions about the future relating to the demographic growth and distribution of the population, and the societal condition, economic health, and the educational needs of the State of Alaska. Assumptions provide the context within which recommendations are made.

The Commission reviewed and affirmed the assumptions listed below. Most of the assumptions about the future were developed by the Alaska Department of Commerce and Economic Development.\* The predictions were obtained from a panel of over 90 distinguished and expert Alaskans using the Delphi forecasting method. The panel included past governors, legislators, local government officials, government agency heads, Native leaders, industry executives, university professors, and advocacy group leaders.

Delphi is a process for systematically combining individual expert opinions elicited from members of the panel. The technique utilizes a series of structured questionnaires mailed to the panelists, combined with feedback of interim results to panel members. Panelists are thus made aware of emerging panel positions. This forecasting method is particularly effective in identifying breakthrough and turning point events.

---

\*A Delphi Forecast of Alaska's Development: The Year 2,000 & beyond, June 1983.

The following assumptions have been determined for the planning period 1986 to 1990.

Although the population growth will be approximately 2.5 percent per year, the population within the Railbelt and the Municipality of Anchorage will grow at more rapid rates. Moreover, there will be a significant increase of high school seniors from about 6,000 in 1986 to slightly over 8,000 seniors in 1990.

The Alaska Student Loan Program will be available throughout the planning period. Initially, slightly more than 50 percent of the students using the program will attend in-state institutions. This proportion will increase slowly throughout the five-year period.

As a system, the enrollment at the University of Alaska will increase. The community colleges will continue to enroll a high proportion of part-time students, however, there will be a slow but steady increase of the proportion of full-time students at the University centers. Telecommunications will be an increasingly important tool for providing educational access in rural Alaska. Federal support of organized research will continue to decline, albeit at a slower rate than in the past few years.

The General Fund unrestricted revenues for the State will steadily decline in real dollars during the next five years. This decline in available funds will increase public pressure for accountability and

effectiveness for all public institutions and services. Moreover, there will be continuing concern and increasing reluctance to invest in capital projects because of the anticipated revenue shortfall.

The major growth industries for Alaska will be coal, hardrock mining, fisheries, and tourism. Closely related to tourism is the increasing importance of the service industry, particularly in the urban areas. The timber industry is predicted to grow only moderately, while slow growth is the prognosis for the agricultural industry. The Pacific Rim will be an important market for most of Alaska's natural resources.



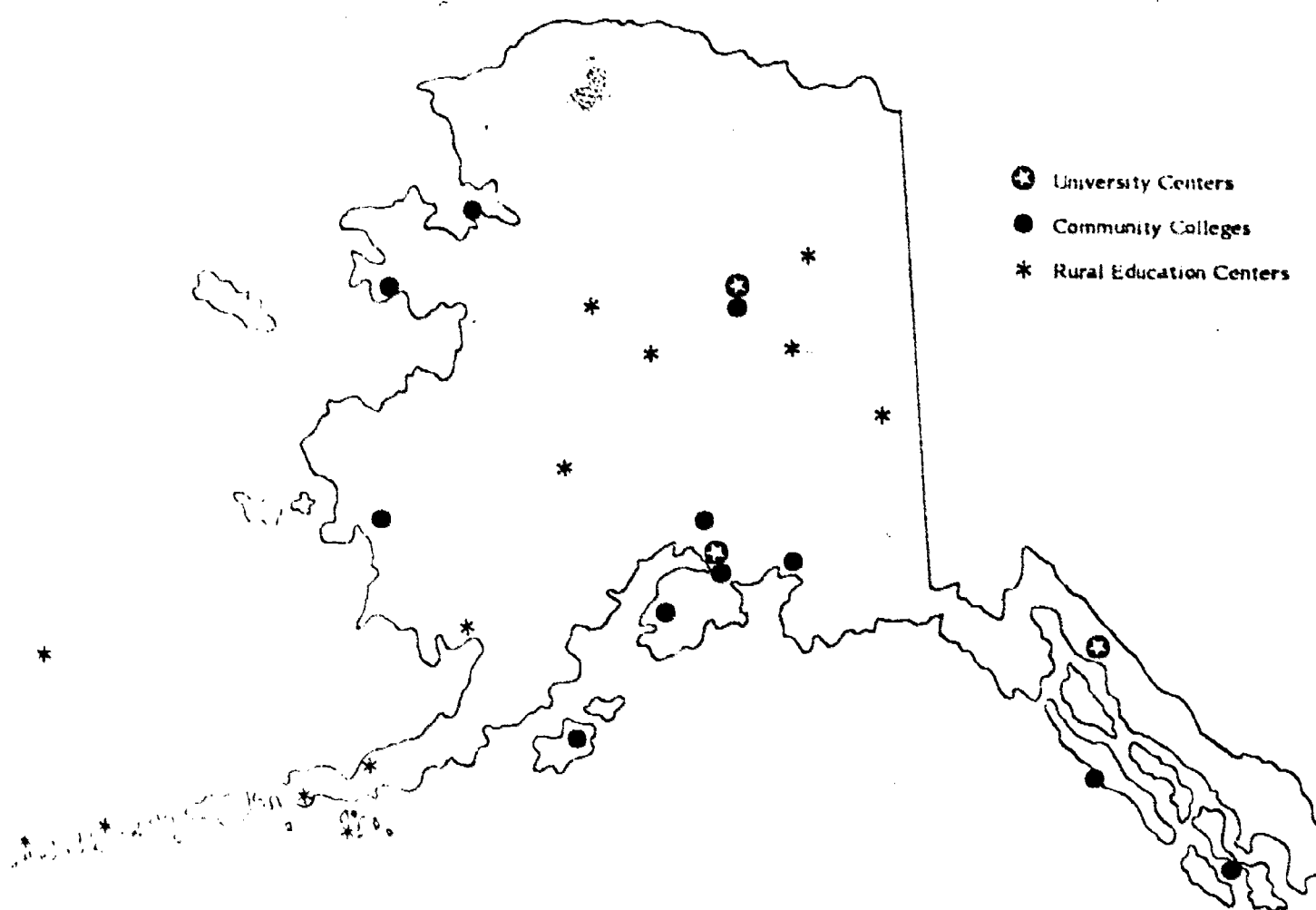
## CHAPTER II

### The Present State of Postsecondary Education in Alaska 1985

The postsecondary education community in Alaska is comprised of six sectors; the University of Alaska system, independent non-sectarian colleges and universities, religious schools and colleges, publicly supported vocational schools, independent proprietary schools, and out-of-state institutions operating in-state.

With a total budget of over \$270 million, the University of Alaska enrolls over 32,000 students, which equals about 92 percent of all students enrolled in postsecondary institutions in Alaska. Three out of four students enrolled in the University are part-time students, and the median age of all students is 27. The University, while offering over 200 different educational programs leading to a certificate or a degree, has three university centers, 11 community colleges, and 13 rural education centers. The locations of these units are shown in Figure 2 on the following page. Over 62 percent of the students enrolled at the University attend the community colleges. Additional data about the University is found in Appendix A in Volume II.

FIGURE 2  
UNIVERSITY OF ALASKA SYSTEM



Locations of University of Alaska Sites

University Centers	Community Colleges	Rural Education Center
Anchorage	Anchorage	Adak
Fairbanks	Bethel (Kuskokwim)	Cold Bay
Juneau	Fairbanks (Tanana Valley)	Bristol Bay
	Ketchikan	Delta/Greely
	Kodiak	Fort Yukon
	Kotzebue (Chukchi)	Galena
	Nome (Northwest)	King Cove
	Palmer (Mat-Su)	McGrath
	Sitka (Islands)	Nenana
	Soldotna (Kenai Peninsula)	Pribilof Islands
	Valdez (Prince William Sound)	Sand Point
		Tok
		Unalaska

Independent non-sectarian institutions are represented by Alaska Pacific University and Sheldon Jackson College. Alaska Pacific University, located in Anchorage, offers programs leading to the associate, bachelors, and masters degrees. Founded in 1959, Alaska Pacific University enrolls close to 700 students today. Sheldon Jackson College, in Sitka, which was established in 1878, is the oldest educational institution in Alaska. The college offers programs leading to the certificate, associate and bachelors degrees.

There are ten religious schools and colleges in the State. While most are located in Anchorage, others can be found in Glennallen, Homer, Kodiak, Palmer and Haines. The schools represent several different denominations and offer programs leading to diplomas, certificates, associate degrees or the baccalaureate.

Alaska supports two public postsecondary vocational schools. Established in 1970, the Alaska Vocational Technical Center in Seward offers a variety of vocational and technical programs. With dormitory facilities capable of accommodating 140 students, the Center enrolled over 1,500 students in 1984. The school emphasizes training of the underemployed and unemployed for skill positions in private industry and government. Kotzebue Technical Center opened its doors in 1982 and now offers six vocational programs. Presently 65 students are enrolled. About 35 students reside in a local hotel, however, a dormitory is scheduled to be completed within two years.

The independent proprietary schools represent, by far, the largest number of postsecondary institutions in Alaska. Over 80 schools offer myriad programs and services which include secretarial science, masonry, radio broadcasting, and bartending. Included within this group are over 30 vocational-technical schools, several real estate schools, nine hairdressing/cosmetology institutes, modeling schools, flight instruction schools, and organizations that offer professional training and staff development.

Rounding out the postsecondary education enterprise are over 30 out-of-state institutions operating in-state. The schools provide educational services to military personnel as well as other citizens of Alaska. Their services include workshops, undergraduate and graduate work, in-service training, and review courses for licensing.

Complementing the educational services provided by a variety of postsecondary institutions, the State of Alaska provides financial assistance for postsecondary study through: The Alaska Student Loan Program, the Teacher Scholarship Loan Program, the WICHE Student Exchange Program, and the State Educational Incentive Grant (SEIG) Program. These programs provide Alaskans with access to postsecondary education which otherwise might not be available.

The purpose of the Alaska Student Loan Program is to provide low-interest loans to Alaskans wishing to pursue education and training at a postsecondary level. The program has grown to serving

just over 1,000 Alaskans in 1971-72 to nearly 17,000 Alaskans in 1985. Just over one-half of the students using the loan program attend institutions in the State.

The Teacher Scholarship Loan Program was recently established by the Alaska Legislature to encourage rural Alaska high school graduates to pursue teaching careers in rural elementary and secondary schools in the State. One unique feature of this program is that the entire loan may be forgiven if, after graduation, the borrower teaches in rural Alaska.

Through its participation in the 13-state Western Interstate Commission for Higher Education (WICHE), Alaska provides residents with access to 16 fields of professional education not available in-state. The WICHE Student Exchange Program provides access to these 16 fields at participating institutions throughout the compact states, and makes these programs available at a reduced out-of-state tuition rate to Alaska's WICHE students.

The State Educational Incentive Grant (SEIG) Program provides need-based grants to eligible Alaskans enrolled in undergraduate programs. Grant awards range from a minimum of \$100 to a maximum of \$1,500 each, depending on demonstrated need. One-half of each grant is federally funded, and one-half is provided by the state.

In all, the opportunities for the citizens of Alaska to participate in postsecondary education are considerable. In what direction the state will proceed in the years ahead depends upon many things, not the least of which is revenue availability to the state, and what share of those revenues the state is willing to dedicate to postsecondary education. The strategies contained in this plan seek to offer direction, not only in light of the inherent constraints placed upon postsecondary education, but also with regard to the responsibility of the State in providing quality education for its citizens.

### CHAPTER III

#### The Goals of the Master Plan

The purpose of this master plan is the attainment, to the fullest extent possible, of the four major goals relating to postsecondary education. The planning goals for postsecondary education are to:

PROMOTE EXCELLENCE to improve educational service;  
ENHANCE ACCOUNTABILITY of the educational process;  
FOSTER EFFICIENCY within the educational enterprise; and  
IMPROVE ACCESS to accommodate those citizens who desire postsecondary education.

The following is a brief description and overview of each of the goals.

#### PROMOTE EXCELLENCE TO IMPROVE EDUCATIONAL SERVICE.

During the past few years, the Commission has addressed the issue of excellence in terms of assessing institutional outcomes. The Commission asserts that excellence in postsecondary education requires that institutions produce demonstrable improvements in student knowledge, capacities, skills, and attitudes. This approach emphasizes the intellectual and personal growth of individual students and stresses that the quality of an educational program should be measured by the contribution it makes to the learning and

development of the student. Thus, an institution of high quality is one that facilitates the maximum growth among its students and is able to document that growth through appropriate assessment procedures. In addition, research and public service activities should be evaluated according to their contribution to society.

It is fitting that the defense of excellence by John Gardner be included here as a supporting framework for this master plan.\*

"Though we must make enormous concessions to individual differences in aptitude, we may properly expect that every form of education be such as to stretch the individual to the utmost of his potentialities . . . we must recognize that there may be excellence or shoddiness in every line of human endeavor. We must learn to honor excellence (indeed to demand it) in every socially accepted human activity, however humble the activity, and to scorn shoddiness, however exalted the activity.

An excellent plumber is infinitely more admirable than an incompetent philosopher. The society which scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

#### ENHANCE ACCOUNTABILITY OF THE EDUCATIONAL PROCESS.

Accountability refers to the obligation of an institution to be answerable to its constituency. Accountability pertains to an institution's responsibility for producing results. It implies a moral or contractual commitment to the student and connotes an open and trusting relationship between the institution and those being served.

---

\* Robert A. Wilson (ed.), Survival in the 1980's: Quality, Mission, and Financing Options, Center for the Study of Higher Education, University of Arizona, Tucson, 1983, p. 59.



The notion of accountability has a strong relationship to assessment of educational, research, and public service outcomes because there is no way for postsecondary education to become properly accountable without knowledge of the overall results from institutional effort. Although institutions may perform multiple functions, financial decisions by students and/or the State cannot be made without regard to what the dollars are buying. If no solid evidence on outcomes is available, decisions will be based on impressions, anecdotes, or faith.

#### FOSTER EFFICIENCY WITHIN THE EDUCATIONAL ENTERPRISE.

The criterion of efficiency, in a broad sense, suggests that an institution utilize the cheapest means toward the attainment of its desired goals. More narrowly and appropriately defined, the degree of efficiency in all human undertaking is discovered by comparing means and ends. The greater the ends achieved with given means, or the fewer the means used to achieve given ends, the greater the efficiency. Put simply, efficiency is the ratio between means and ends.

Howard Bowen identifies two frequent errors which are committed when discussing efficiency in higher education.\*

"The first, common to critics of higher education, is to judge efficiency only in relationship to cost. It is assumed that an institution that can educate a student for \$2,000 a year is more efficient than one which spends \$3,000 per student. Clearly the question of which is more efficient can be answered only when something is known about the outcomes. The second error, common

---

\* Howard R. Bowen, The Costs of Higher Education, Jossey-Bass Publishers, San Francisco, 1980, pp. 230-231.

to the proponents of higher education, is to judge efficiency only in relation to outcomes. It is assumed that improved outcomes are desirable regardless of cost. Both of these approaches fail to recognize that efficiency is a relationship between two variables, cost and outcomes."

Bowen goes on to say "the statement that institutions differ widely in their efficiency means not merely that they differ in their costs, or that they differ in their outcomes, but rather that they differ in their ratio of their outcomes to their costs. A high-cost institution may be very efficient if it is producing commensurate outcomes; and a low-cost institution may be very inefficient if its outcomes are negligible or even negative."

#### IMPROVE ACCESS TO ACCOMMODATE THOSE CITIZENS WHO DESIRE POSTSECONDARY EDUCATION.

It is the responsibility of the State to make postsecondary education as accessible as possible to all segments of society. Striving to improve access in light of declining revenues is a major challenge now facing the State.

In general, access refers to the opportunity for the citizens of Alaska to participate in postsecondary education. The notion of access relates to myriad activities within the postsecondary enterprise. Methods of educational delivery, whether they be through classroom lecture, telecommunications, computers, correspondence, or lab demonstration, affect access. Access refers to the type and variety of courses and programs offered at a particular program location. It relates to the ability of students to take courses that they need and to be able to complete programs in a reasonable amount

of time. Access also suggests that appropriate support services be provided to those students who are either academically, culturally, or physically disadvantaged. In sum, access relates to that realm of services provided by the postsecondary education community which increases participation by the citizens of the State.

## CHAPTER IV

### Strategies

The following strategies are grouped according to the goal each promotes. It should be noted that some of the strategies contribute to more than one goal. For convenience, however, the strategies are associated with the goal with which they have the strongest relationship.

The goals, which were discussed in Chapter III, are:

PROMOTE EXCELLENCE to improve educational service;

ENHANCE ACCOUNTABILITY of the educational process;

FOSTER EFFICIENCY within the educational enterprise; and

IMPROVE ACCESS to accommodate those citizens who desire postsecondary education.

GOAL: PROMOTE EXCELLENCE to improve educational service.

STRATEGY 1. THE UNIVERSITY OF ALASKA IS URGED TO DEVELOP AN ASSESSMENT PROGRAM TO MEASURE THE IMPACT OF THE INSTITUTION'S CURRICULUM AND INSTRUCTION ON STUDENT LEARNING.

This recommendation has been a major concern of the Commission for several years. Implicit in the recommendation is the suggestion that any institution of quality continuously and rigorously evaluates its effectiveness. That evaluation must encompass two basic questions: (1) How well does the institution educate students?, and (2) What practices influence the institution's ability to do so? Moreover, it is appropriate that constituents of higher education be provided evidence that demonstrates student achievement, command of subject matter, and mastery of basic educational objectives.

Beginning around the turn of this decade, institutions of higher education in this country began to eschew traditional measures of quality which focused upon institutional resources such as endowments and expenditures, the breadth and depth of curricular offerings, the intellectual attainments of faculty, the test scores of entering students, and selectivity in admissions. These measures were abandoned because they simply do not measure excellence. None of them tells us what students actually learn or how much they grow as a result of their learning experiences, and none tells us anything about educational outcomes. As a result, we have no way of knowing how academic institutions actually perform.

It is, therefore, recommended that the University of Alaska adopt administrative procedures which facilitate a "value-added" approach to institutional assessment. This approach stresses student learning outcomes relative to student input potential, and provides the means by which an institution can focus on educational quality. As a concept, value-added refers to the positive differences that an educational experience contributes to a student's knowledge, attitudes, and skills. A value-added approach emphasizes the use of qualitative measurements to monitor student change and develops data which allows an institution to see how its actions influence that change. According to Alexander Astin, the basic argument underlying the value-added approach is "that true quality resides in the institution's ability to affect its students favorably, to make a positive difference in their intellectual and personal development. The highest quality institutions, in this view, are those that have the greatest impact--add the most value--to the student's knowledge, personality, and career development."

There is movement to include outcomes measurement as a legitimate requirement for accreditation. In 1983, the Southern Association of Colleges and Schools proposed to its members that institutions be required to evaluate student learning systematically and measure appropriate outcomes of the education process. This represents a significant change from the "process-oriented" criteria that historically dominate institutional accrediting procedures. While the proposal was not adopted, the accrediting community is continuing to debate the appropriate use of outcomes measurement in the accreditation process.

The Commission realizes that implementation of such an evaluation method requires the cooperation and enthusiasm of all segments of the university community. It is also recognized that establishment of a value-added approach to institutional assessment will take several years to implement. It is because of these two notions that the Commission emphasizes that it is now time to begin. As expressed recently by the Southern Regional Education Board: "Today, there is interest in a new form of accountability for higher education--accountability on the basis of the demonstrated achievement of students, not just on financial criteria; and quality judgments of the basis of student academic success, not just on the basis of selectivity."\*

An excellent resource to aid in the development of assessing student outcomes is found in a document entitled In Pursuit of Degrees with Integrity, A Value-Added Approach to Undergraduate Assessment, published by the American Association of State Colleges and Universities. This publication describes the value-added program at Northeast Missouri State University, which was awarded the 1983 G. Theodore Mitau award for innovation and excellence in state colleges and universities. As explained in the forward by Allen W. Ostar, President of the American Association of State Colleges and Universities (AASCU),

"... since the early days of the academic affairs resource center, AASCU has explored many methods of program evaluation that could enhance the integrity of the baccalaureate degree. We are certain that the value-added approach holds much potential for the future development and evaluation of institutional programs at state colleges and universities. Our AASCU institutions serve the public,

---

\* James R. Mingle, Measuring the Educational Achievement of Undergraduates: State and National Developments, State Higher Education Executive Officers, Denver, January 1985, p. 14.

and it is important for us to know whether we are fulfilling our institutional missions to provide high-quality educational experiences for the diversity of students we serve."

\* \* \* \* \*

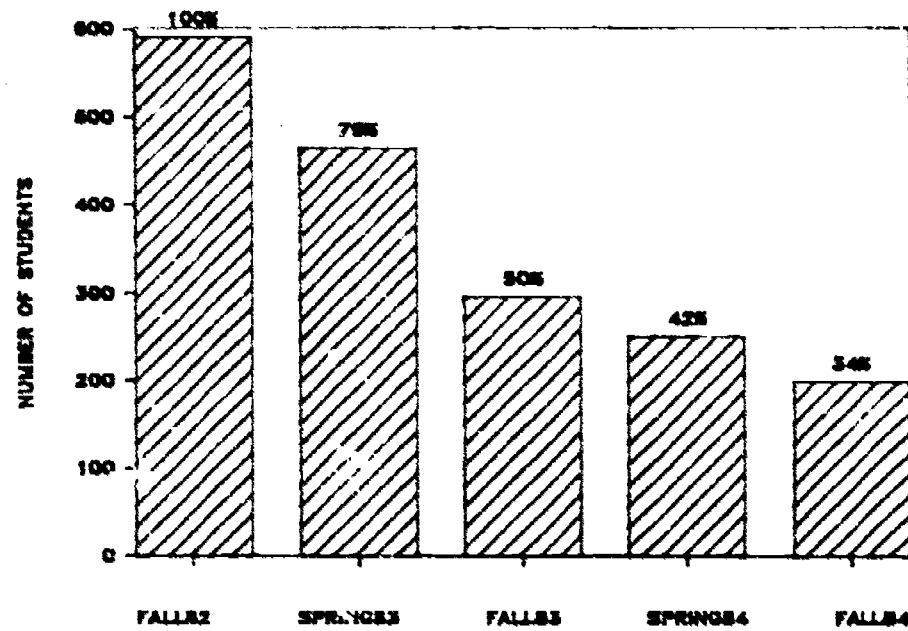
STRATEGY 2. THE COMMISSION ENCOURAGES THE UNIVERSITY OF ALASKA TO STUDY FURTHER THE RETENTION AND PROGRESSION PATTERNS OF THE ENTERING FULL-TIME STUDENTS.

Recently, the University of Alaska performed a student retention and progression study at the University of Alaska, Anchorage, Fairbanks, and, Juneau. The study followed the progress of full-time students enrolled for the first time in the fall of 1982. The reason for selecting a cohort of full-time, first-time students enrolled in a degree program was that they, by virtue of their enrollment, expressed a commitment to definable objectives. Specifically, they were committed to full-time study and obtaining a degree.

At the University of Alaska, Fairbanks (UAF), a 1982 fall semester full-time cohort group of 591 first-time freshmen was identified. Of those students, 465 (79%) again enrolled in the spring of 1983; 296 (50%) in the fall of 1983; 251 (42%) in the spring of 1984; and 200 (34%) enrolled within the first three weeks of the fall semester of 1984. Thus, after two years, the original cohort of first-time freshmen enrolled as full-time students in the fall of 1982 was reduced by approximately two-thirds. Thus, the retention rate of the traditional, full-time student after two years at UAF is about 34 percent. (See Figure 3 on next page.)

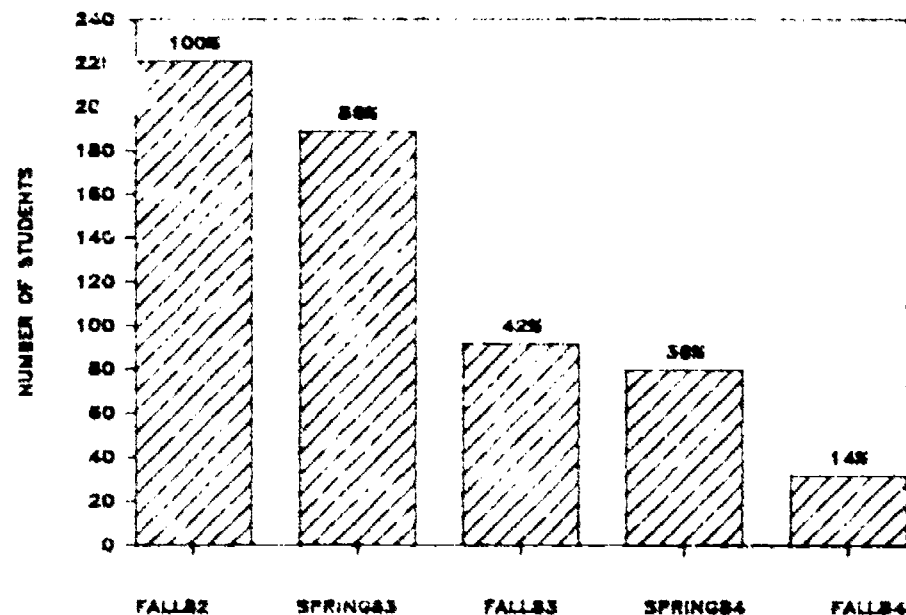


FIGURE 3  
UAF STUDENT RETENTION



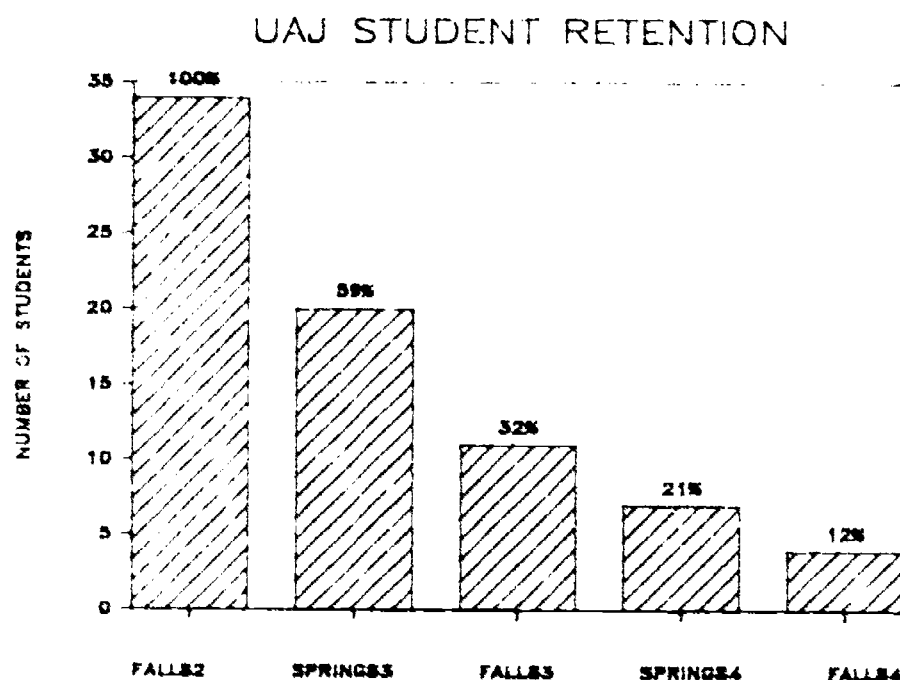
At the University of Alaska, Anchorage (UAA), a 1982 fall semester full-time cohort group of 221 first-time freshmen was identified. As illustrated in Figure 4, of those students, 189 (86%) again enrolled in the spring of 1983; 92 (42%) in the fall of 1983; 80 (36%) in the spring of 1984; and 32 (14%) enrolled within the first three weeks of the fall semester of 1984. After two years, the original cohort of first-time freshmen enrolled as full-time students in the fall of 1982 was reduced by almost 86 percent. Hence, the retention rate of the traditional, full-time student after two years at UAA is about 14 percent.

FIGURE 4  
UAA STUDENT RETENTION



As noted in Figure 5, at the University of Alaska, Juneau (UAJ), a 1982 fall semester full-time cohort group of 34 first-time freshmen was identified. Of those students, 20 (59%) again enrolled in the spring of 1983; 11 (32%) in the fall of 1983; 7 (21%) in the spring of 1984; and 4 (12%) enrolled within the first three weeks of the fall semester of 1984. After two years then, the original cohort of first-time freshmen enrolled as full-time students in the fall of 1982 was reduced by approximately 88 percent, thereby yielding a retention rate of the traditional, full-time student after two years at UAJ of about 12 percent.

FIGURE 5



The University also collected data on full-time student progression. Progression refers to the rate at which an entering freshman earns enough hours of credit to achieve a higher class rank (sophomore, junior, senior). For instance, a student should have achieved sophomore status after the passage of one year and junior status after two years.

At the University of Alaska, Fairbanks, at the end of one year (fall 1983 semester), 123 (21%) of the original fall 1982 cohort of first-time freshmen had reached the level of sophomore, and 166 (28%) continued to enroll at the freshman level. At the end of two years (fall 1984 opening semester), 61 (10%) of the original fall 1982 cohort of first-time freshmen had reached the level of junior, 116 (20%) were still at the sophomore level, and 15 (3%) remained at the freshman level.

At the University of Alaska, Anchorage, at the end of one year (fall 1983 semester), 25 (11%) of the original fall 1982 cohort of first-time freshmen had reached the level of sophomore, and 66 (30%) continued to enroll at the freshman level. At the end of two years (fall 1984 opening semester), 9 (4%) of the original fall 1982 cohort of first-time freshmen had reached the level of junior, 17 (8%) were still at the sophomore level, and 5 (2%) remained at the freshman level.

The data collected for the University of Alaska, Juneau indicates that the end of one year (fall 1983 semester), none of the original fall 1982 cohort of first-time freshmen had reached the level of sophomore and 10 (29%) continued to enroll at the freshman level. At the end of two years (fall 1984 opening semester), none of the original fall 1982 cohort of first-time freshmen had reached the level of junior, 3 (9%) were still at the sophomore level, and 1 (3%) remained as a freshman.

There has been a great deal of research on student retention. One large-scale national study the National Longitudinal Study of High School Seniors (NLS), has been carried out under the sponsorship of the National Center for Education Statistics. This study is a long term

follow-up of the members of the high school graduating class of 1972, who are periodically surveyed. The results of this study show that 72 percent of the first-time full-time college students re-enrolled the second year at their original four-year institution and 56 percent re-enrolled for the third year. Studies conducted by the states of Maryland and New York show similar results. A recent study by the State of Tennessee shows lower retention rates than the national average, but higher than those of the University of Alaska.

Because it appears that the retention rate of students at the University of Alaska centers is low, both absolutely and in relation to other states, it is incumbent upon the University to rigorously analyze the reasons why this is occurring. An assessment of student retention enables the institution to continually evaluate its own performance. Tracking student retention provides valuable information concerning the quality of virtually all segments of the University. In particular, academic departments need to know what happens to their students. A systematic assessment of retention can affect an institution's standards, its teaching methods, the process of faculty selection, preparation, and evaluation and its student advising. Indeed, it can be a mark of the University's highest standard of self-assessment and self-improvement.

The data contained in this recommendation concerning retention should be considered preliminary in nature, and it would be inappropriate to draw conclusions or change policy at this point. All that is known for certain regarding the students who are no longer enrolled is that, for reasons which are not available now, their relationship with the institution has ceased. Again, a cautionary note, the reasons for

leaving the institution may be many, e.g., financial, academic, abandonment of original objectives, illness, desire to attend another institution, or any variety of personal and nonpersonal reasons. It is only through additional analysis that the University will be able to ascertain the causes of the low retention rate.

\* \* \* \* \*

STRATEGY 3. THE RECENTLY ESTABLISHED ALASKA PRIVATE SCHOOL ASSOCIATION, INC. IS ENCOURAGED TO STRENGTHEN ITS MEMBERSHIP AND TO ADDRESS THE QUALITY OF THE PROPRIETARY EDUCATIONAL PROCESS.

In March, 1985, the Alaska Private School Association, Inc. was established. There are over 80 private proprietary schools in the State and they offer a variety of programs ranging from cosmetology to flight instruction to welding. These schools are an important part of the postsecondary educational community. Whereas the public and private colleges and universities have roles in instruction, research, and public service, the private proprietary schools contribute to the educational delivery system through instruction, manpower training, and skills development.

The Association has adopted six specific purposes. These are:

- To encourage quality educational and training programs in all member schools, for the benefit of all private school students and enabling them to develop and improve their capabilities.

- To upgrade the image of private schools in Alaska, and educate the public as to the availability and benefits of private education.
- To foster ethical practices and work to improve all private schools in Alaska, for the benefit of their students and the public.
- To hold workshops and seminars to encourage professional development for the benefit of private schools, their students, and the public.
- To provide an open channel of communication and liaison between private schools and business, industry, public schools, State and Federal agencies, and the State and Federal Legislatures, and to work with these entities for the improvement of private education in the State of Alaska.
- To take whatever action is necessary, proper, or advisable to effect the purposes for which this corporation is organized.

Several other states have similiar organizations, and the Commission applauds this effort and looks forward to a cordial and productive working relationship. A major function of the Commission is "to provide for the protection, education, and welfare of the citizens of the State, its postsecondary institutions, and its students." As the Association develops and matures, the Commission recommends that it address the following issues:

1. There is high potential for needless duplication of vocational courses and programs between the private proprietary schools and public community colleges. The Association should foster cooperation and coordination with the community colleges to eliminate as much program redundancy as possible.
2. To enhance the quality of the educational process of the private schools, the Association should encourage its members to seek national accreditation either through the National Association of Trade and Technical Schools (NATTS) or the Association of Independent Colleges and Schools (AICS).
3. Information about the students enrolling in the private schools is valuable both to the schools themselves and to the Commission. It is urged that the Association establish a systematic effort to collect appropriate data that will facilitate the educational process of the citizens of Alaska. The Commission stands ready to help in this effort.
4. The State Scholarship Loan Program is only available to full-time students. For private proprietary schools, the Commission defines a full-time student as "a student enrolled in a career educational program for at least 30 clock hours per week." Since there is controversy concerning this definition, the Association should review the full-time student standard and make any recommendations for changes to the Commission.



5. It is now under consideration that private proprietary institutions should obtain a surety bond from a recognized bonding agency in the State. The Association should review whether bonding is an appropriate vehicle for protection of the consumer, and if not, recommend an appropriate alternative.

\* \* \* \* \*

STRATEGY 4. THE COLLEGES AND UNIVERSITIES IN THE STATE ARE ENCOURAGED TO CONTINUE THOSE COURSES, PROGRAMS, AND ACTIVITIES WHICH SERVE TO ENHANCE THE AWARENESS AND RESPECT OF OTHER CULTURES.

As noted in the introduction, Alaska is a land of cultural and linguistic richness. The 1980 census clearly presents this impressive heterogeneity. In addition to a large number of American Indians, Eskimos and Aleuts, there is a significant portion of Asian and Pacific Islanders, which include Filipinos, Japanese, Chinese, Koreans, Asian Indians, Vietnamese, and Hawaiians (see Appendix B).

Since before statehood, Alaska citizens have distinguished themselves by maintaining a tradition of acceptance and respect for the cultures of others. This is reflected in our postsecondary education community. The colleges and universities in the State offer a number of programs and/or courses which promote cultural awareness both within the State and internationally. Appropriately, there is a particular emphasis on the language and culture of the Pacific Rim. While the University of Alaska,



Fairbanks and Alaska Pacific University offer multi-cultural academic programs, courses abound on every campus. The following are just a few examples of courses which can be enjoyed by Alaskan residents:

Natives of Alaska  
Studies in Spanish Literature  
Transcultural Nursing  
Beginning Athabaskan-Kuyukon  
Alaska Native Languages  
Introduction to Tuma Theatre  
Native American Religion & Philosophy  
Knowledge of Native Elders  
Native Art of Alaska  
Cultural Influences in Education  
Yup'ik Eskimo  
Inupiaq Eskimo  
French  
German  
Japanese  
Russian  
Spanish

Northwest Indian Art  
Studies in Canadian Literature  
The Art of Skin Sewing  
20th Century Russia  
East Asian Civilization  
Black History  
Modern China  
Modern Japan  
History of American Indians  
Alaska Native Politics  
Haida  
Tlingit  
Oral and Written Literature for  
the Crosscultural Classroom  
Native Crafts  
Literature of the North  
Alaskan Folklore

Higher education in Alaska should and does assert leadership in this very important area. It is vital that the postsecondary institutions continue to strengthen and reinforce the legacy of understanding and respect for the heritage and customs of other people both within the State and throughout the world.

GOAL: ENHANCE ACCOUNTABILITY of the educational process.

STRATEGY 5. THE UNIVERSITY OF ALASKA SHOULD DEVELOP GUIDELINES FOR THE ADDITION OF FACULTY AND STAFF, AND USE THESE GUIDELINES IN ITS BUDGET REQUEST TO THE LEGISLATURE AND THE GOVERNOR.

The University of Alaska, like all institutions of higher education, is labor intensive; a very high percentage of the University's budget is for personal services. Faculty salaries and benefits comprise the largest single part of the budget and, because of tenure and other contractual arrangements, the financial impact of staffing decisions can be felt for years. Thus, it is crucial that decisions concerning the addition of personnel be made in a systematic and judicious manner. This is particularly acute in light of the declining general fund revenue that the State is now experiencing.

The University's budget request should provide appropriate justification for the addition of new staff, and the rationale for staff additions should be based upon cost effectiveness and improvement of the educational process. An a priori development of appropriate standards or guidelines will help to assure that staff additions are not based upon judgments which are inconsistent with sound management principles and established educational standards.

It is reasonable to assume that there will be varying standards for the university centers and for the community colleges, and also different standards for various disciplines and course levels. The Commission stands ready to aid the University in any way possible to develop appropriate standards for the addition of new personnel, but the task, by its nature, must lie squarely with the University. It should also be noted that, once new staff are awarded, it is and should be the University's responsibility to allocate all staff according to the needs of the institution.

Such standards or guidelines can take several forms. For purposes of example only, the following are representative of standards used by other states. The Arkansas Department of Higher Education has established guidelines which indicate the number of student credit hours (SCH) that should be produced by faculty by discipline and course level. Table 1, on the next page, illustrates an example of the standards used in Arkansas.

TABLE 1

STANDARDS FOR THE  
GENERATION OF STUDENT  
CREDIT HOURS PER FTE FACULTY

	<u>Lower Level</u>	<u>Upper Level</u>	<u>Masters/ Specialist/ 1st Professional</u>	<u>Doctoral</u>
Agriculture and Natural Resources	720	648	288	144
Architecture and Environmental Design	600	480	288	---
Area Studies	---	360	---	---
Biological Sciences	720	480	180	144
Business Management	720	648	288	144
Communication	450	360	126	---
Computer and Information Services	720	480	288	144
Education	600	480	288	144
Engineering	450	360	126	144
Fine and Applied Arts	450	240	126	144
Foreign Languages	450	240	126	144
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

In Colorado, the procedure for the allocation of faculty is based upon student/faculty ratios by discipline and course level as shown in Table 2 on the next page.

TABLE 2

STUDENT/FACULTY RATIO GUIDELINES FOR THE ALLOCATION OF FTE FACULTY				
<u>Discipline</u>	<u>Student/Faculty Ratios</u>			
	<u>Lower</u>	<u>Upper</u>	<u>Grad 1</u>	<u>Grad 2</u>
Agriculture and Natural Resources	24	15	8	6
Architecture and Environmental Design	20	15	11	7
Area Studies	30	22	11	7
Biological Sciences	25	15	8	6
Business Management	25	22	12	10
Communication	21	17	12	10
Computer and Information Services	22	12	8	6
Education	22	22	12	10
Engineering	19	13	8	7
Fine and Applied Arts	15	10	8	7
Foreign Languages	19	10	9	7
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

After the determination of FTE faculty is made, other guidelines for staff can be developed. For instance, the State of Oregon uses a ratio of one FTE for each five FTE faculty for clerical support and one FTE for each twelve FTE faculty for technical support.

The Commission realizes that for some developing institutions, these standards may not be appropriate. However, for most of the institutions within the University system, guidelines can be determined and should be maintained to assure an efficient allocation of resources. Moreover, the guidelines can help to assure a public that is concerned about the expenditure of state monies that the University is acting in a reasonable and prudent manner.

\* \* \* \* \*

STRATEGY 6. THE COMMISSION IS IN STRONG AGREEMENT WITH THE REPORT SUBMITTED TO THE ALASKA STATE LEGISLATURE FROM THE RURAL EDUCATION TASK FORCE AND ENCOURAGES THE UNIVERSITY TO TAKE IMMEDIATE ACTION IN DEVELOPING A COMPREHENSIVE PLAN FOR POSTSECONDARY EDUCATION SERVICES FOR RURAL/NATIVE ALASKANS.

The Rural Education Task Force, in response to the Bush Caucus of the 1984 Alaska State Legislature, was asked to "develop a single plan for postsecondary education services to rural Alaska that is efficient, effective, and mutually acceptable to recipients, providers and funding agencies." The Task Force, after receiving considerable public participation, identified several recommendations regarding distance-delivered postsecondary education services to rural/Alaska Native residents. The complete report is contained in Appendix C in Volume II, but following is a brief summary of the report's recommendations.

Recommendation 1. The University of Alaska should take immediate steps to begin developing a comprehensive plan for postsecondary education services for rural/Native Alaskans.

Recommendation 2. The planning process should involve the Alaska Federation of Natives and other representatives of rural/Alaska Native constituent groups.

Recommendation 3. The plan should address and/or include:

- a. locally delivered courses to residents in the rural communities;

- b. external degree programs in education, health sciences, social services, business administration/management, land and natural resources development and management, vocational/technical training, and leadership training,
- c. flexibility of instructional systems;
- d. career counseling and academic advisement services for distance learners;
- e. both short term and long term education/training needs of the community/region;
- f. localized curriculum;
- g. academic excellence that guarantees articulation and transferability of credit, particularly among the University of Alaska units; and
- h. the establishment of permanent counseling services.

Recommendation 4. Learning centers in villages should be established in order to provide a quiet place to study, a meeting place for audio-conferenced courses, and access to resource and reference materials.

Recommendation 5. The University of Alaska should clarify and formulate the specific role of policy advisory councils, providing an avenue for local involvement in planning, implementation, evaluation and feedback from consumer groups.

Recommendation 6. Close alignment of the Cooperative Extension Service (CES) should be established with rural postsecondary credit course delivery.

Recommendation 7. Curriculum must be relevant to the needs of the participants and the areas in which they work and live. The overarching goal is to provide the opportunity for individual and community social and economic well-being through education that results in improved employment opportunities.

Recommendation 8. Given the magnitude of the project to plan, develop, implement, and evaluate a distance-delivered external degree program responsive to the identified needs of the service area, a pilot project of defined scope should be established.

Recommendation 9. Special funding is recommended for a variety of projects and activities, which include a pilot project for locally delivered services, teacher orientation, a research project to establish a data base on Alaska Native student participation and achievement in secondary and postsecondary education, and the establishment of honors institutes at the four-year campuses of the University of Alaska.

The Commission also echoes the enthusiastic endorsement by the Task Force of the Cross-Cultural Orientation Program (X-COP) for teachers, which is currently offered by the University of Alaska, Fairbanks. The year-long program has been preparing both teachers and administrators for schools in rural Alaska. It is designed to increase the effectiveness of those working in rural schools. The courses are adapted for practicing teachers in a field setting, with numerous applied activities and projects as well as clinical supervision by the teaching faculty. As the report emphasizes, "the program has been successful in addressing



cross-cultural teaching strategies and teacher performances in the rural classroom and has shown that participants have a lower attrition rate than non-participants."

\* \* \* \* \*

STRATEGY 7. WITH CLOSE ATTENTION TO THE MISSION OF EACH OF THE UNIVERSITY CENTERS, THE UNIVERSITY OF ALASKA SHOULD CONTINUE TO ASSESS THE RELATIONSHIP OF RESEARCH TO INSTRUCTION AND PUBLIC SERVICE.

Research is an activity closely related to progress in all fields of intellectual endeavor. It is a necessary ingredient to the discovery of new knowledge and the application of existing knowledge to new situations. Research, appropriately, takes its place alongside teaching and public service as an important activity in higher education. Although each University center should be involved in research to some degree, the level and scope of involvement can and should differ depending upon the distinct characteristics of the mission of each center.

University of Alaska policy provides for differing research emphases not only between campuses but also within a campus. Sections 04.01.16(B) of the University policy concerning performance standards of faculty contains the following statement:

"The performance standards stated above, and in the Regulations which accompany this Policy, speak only to the universally accepted indicators of faculty evaluation: teaching, research, and public and university service. It should, nevertheless, be understood that a faculty member has professional responsibilities and obligations that go beyond teaching, research, and public service (such, for example, as continuing professional development); and that those "other" responsibilities and obligations are also subject to comment and

evaluation. This policy does not mean that all three areas (teaching, research and public service) must appear in each year of university service. Nor does it require that candidates for promotion be equally proficient in, or equally engaged in, teaching, research, and public service in every year of their university service. (emphasis added)

In light of the economic circumstances now facing Alaska, the University of Alaska, in cooperation with the Legislature and Governor's office, should come to agreement on how much the State should support research at each campus. This is becoming particularly acute as the demand for instructional services continues to increase. The following are some of the questions that should be addressed.

1. What is the appropriate level and scope of research for each University center?
2. Does the research effort at each campus support and uphold the institution's mission?
3. **Regardless** of the emphasis placed upon the research at a **particular** campus, how can the workloads of individual faculty members be modified depending upon their particular strengths and the educational requirements of the campus?

Traditionally, the University has concentrated on problems and phenomena of the Arctic and sub-Arctic regions. In doing so, the University is maintaining links with institutions and laboratories in several countries within the same latitude area. Also, scholarly works that relate to the Pacific Rim are becoming increasingly important. The University has a distinguished record of research contributions and has achieved both national and international recognition.

This recommendation is not intended to discourage or inhibit those research contributions that continue to enhance the University's reputation beyond State boundaries. As a matter of public policy, however, it is advisable to maintain an appropriate balance between instruction, research, and public service.

GOAL: FOSTER EFFICIENCY within the educational enterprise.

STRATEGY 8. THE UNIVERSITY OF ALASKA SHOULD INSTITUTE A COMMON COURSE NUMBERING SYSTEM TO FACILITATE THE AUTOMATIC TRANSFER OF CREDITS FOR EQUIVALENT COURSES AMONG THE UNITS AND, IN PARTICULAR, BETWEEN THE COMMUNITY COLLEGES AND THE FOUR-YEAR INSTITUTIONS.

The transfer of credit by students from one unit of the University to another has continued to be problematic. Of particular note, difficulties persist for students attempting to transfer from the community colleges to the four-year institutions within the University of Alaska system.

The four-year institutions of the University of Alaska will accept all course transfer credit at the 100 level and above from the University of Alaska community colleges and rural education centers for students with a grade point average (GPA) of 2.0 and above. Course credit applicability toward a particular degree program, however, is determined by the receiving University of Alaska unit. It is the assigning of courses toward the major by the receiving unit which has forced transfer students to either repeat courses or enroll in additional courses which have similar content to courses they have already completed. The result is that many students must enroll for additional semesters to complete graduation requirements.

In response to these circumstances, the Commission, at the direction of the Alaska State Legislature and with the cooperation of the University and other independent colleges and universities, developed the Alaska Transfer Guide in 1982. The Guide is designed to help students in transferring from two-year programs into four-year programs within the State. Students and counselors use the Guide for determining if and how any courses offered in an Alaskan two-year institution will transfer to a four-year Alaskan institution. The Guide is intended to serve as a tool of the consumer of postsecondary education. It does not attempt to imply what should or should not transfer from one institution to another, or what should or should not apply as an elective credit or major degree credit in a transfer action. The Guide simply reports what does or does not transfer and, if it does, how it transfers from one institution to another.

In spite of these efforts, transfer problems continue to exist. Therefore, the Commission recommends that the University of Alaska establish a common course numbering system to facilitate the automatic transfer of credits for equivalent courses among the University of Alaska units.

The State of Florida experienced similar difficulties concerning the transfer of credits between its 28 community colleges, which are under the auspices of the Community College Coordinating Board, and the nine public senior institutions governed by the Board of Regents. Both systems together enroll about 350,000 students. In response to this problem, the Florida Legislature in the early 1970's provided for the establishment of a statewide course numbering system (see legislation in

Appendix D in Volume II). The system was established at the University and the community colleges in the mid 1970's. It is now used at all public institutions of higher education in Florida.

The course numbering system:\*

- Provides a framework for each subject-matter area to categorize courses. The same framework is used by all institutions.
- Places responsibility of determining course equivalencies with faculty at the universities and community colleges who would make their decisions based upon detailed course descriptions or syllabi.
- Establishes course inventories listing all courses offered at universities and community colleges and identifies equivalent courses.
- Develops statewide course descriptions, or course-equivalency profiles, to be used in determining equivalencies.

In 1983, there were over 55,000 courses on file for the community colleges and universities in Florida.

The advantages of such a system are manifold. Because all public institutions of higher education would use the same course numbering system, the evaluation of students' transcripts would be easier than in the past. Automatically transferable courses can be identified instantly. Of extreme importance, the rule of automatic transferability of courses which are deemed equivalent by faculty committees would reduce for many transfer students the time required to complete a degree. This means substantial savings for the students and the state.

\* Florida Statewide Course Numbering System: An Overview, Florida Department of Education, Tallahassee, June 1984.

Because course inventories are statewide, the counseling process can become more efficient and effective. Also, since all courses and course descriptions would be on file, instructors who plan new courses can request copies of descriptions of existing courses.

It is logical to assume that the University of Alaska could establish such a common number system with comparative ease. Unlike Florida, which had to accommodate two distinct governing systems with 37 institutions, the University of Alaska is one system with 14 major campuses and several rural education centers. Also, the University of Alaska has significantly fewer different course offerings than the institutions in Florida.

Realizing that this effort will be beneficial to the citizens of Alaska, the Commission stands ready to aid the University when it decides to implement such a program.

★ ★ ★ ★ ★

STRATEGY 9. IN LIGHT OF DECLINING STATE REVENUES, THE SUMMER SESSION PROGRAMS AT THE UNIVERSITY OF ALASKA CAMPUSES SHOULD BE ADMINISTERED SO THAT DIRECT TEACHING COSTS ARE NOT EXCESSIVE RELATIVE TO REVENUES.

All of the university centers and community colleges of the University of Alaska system conduct summer session programs. In general, teachers employed in the summer are recruited from three basic sources: (1) full-time faculty employed under a nine-month contract, (2) full-time

faculty and administrators under a 12-month contract, and (3) persons in the community who have particular expertise in academic areas. The salary for faculty possessing a nine-month contract who teach in the summer is 1/27 of their full-time salary per credit hour. For instance, a faculty member whose salary for nine months is \$45,000 receives \$5,000 for teaching a three-credit course in the summer. Community college faculty receive a flat rate of \$1,000 per credit hour for teaching in the summer. The remuneration for persons not employed full time by the University ranges from \$622.35 per credit hour to \$726 per credit hour. Thus, the salary for a three-credit course may range from a low of \$1,867.05 to a high exceeding \$5,000.

These direct instructional costs are offset, to a limited degree, by revenues derived from student tuition and fees. For the summer of 1983, instructional costs were estimated as being approximately \$1.1 million more than revenues. At the the university centers alone, instructional costs were close to \$900,000 more than revenues.

Throughout the higher education community, it is common practice that summer session activities are expected to generate enough income to pay for instructional costs. Indeed, at many institutions the summer session program is expected to generate additional income for the academic year. One pointed illustration is Syracuse University. In summer of 1984, the summer session program generated \$5 million with instructional costs equaling about \$2.2 million. The remaining \$2.8 million was used as additional revenue for the university.



A recent survey\* of 514 institutions conducted by the Association of University Summer Sessions and others found that over 75 percent of the responding institutions expected the summer sessions to generate revenues at least equal to instructional costs. Also, almost 50 percent expected revenues to equal instructional costs plus administrative costs and a substantial portion of overhead.

The University of Alaska should explore and implement strategies to make summer sessions more cost effective. This may require a combination of administrative changes which could include enhancing marketing activities, scheduling popular courses and activities to ensure maximum enrollment, reducing faculty remuneration, or raising tuition. By adopting creative and imaginative strategies employed by other institutions like Syracuse University, which are able to generate surplus funds, the University can strengthen the total academic program.

It is crucial to emphasize that the Commission does not, in any way, suggest the elimination or curtailment of summer school. This recommendation merely recognizes that, given limited funds, the State may need to examine the practice of providing summer school at a substantial loss.

\* \* \* \* \*

---

\* Summer Sessions Associations' Joint Statistical Report, 1983, Association of University Summer Sessions, et al., 1983.

STRATEGY 10. IN ORDER TO ACCOMMODATE STUDENTS WHO ARE UNDERPREPARED FOR COLLEGE LEVEL WORK, THE CAMPUSES OF THE UNIVERSITY OF ALASKA SHOULD INSTITUTE DEVELOPMENTAL PROGRAMS WHICH ADDRESS SPECIFICALLY THE ACADEMIC DEFICIENCIES OF THEIR INCOMING STUDENTS.

There are basically two types of undergraduate admission policies identified by the Carnegie Council on Policy Studies in Higher Education: (1) Non-selective admissions, (often referred to as open admissions) which represents an estimated 40 percent of total admissions and occurs at most community colleges and at a number of liberal arts colleges and comprehensive colleges and universities; and (2) selective admissions, which varies from highly to moderately selective institutions and occurs at all levels of higher education.

The admissions policies at the University of Alaska, Anchorage (UAA) and the University of Alaska, Fairbanks (UAF) are fundamentally non-selective. According to the 1984-85 catalog of UAA, "To qualify for admission as a freshman in a baccalaureate program a person must have graduated from an accredited high school with a grade point average of 2.5 (C+) or higher and have submitted scores on the American College Testing Program (ACT) or Scholastic Aptitude Test (SAT)." Probationary admission to UAA may be granted to high school graduates with a high school grade point average of at least 2.0, provided that the student enter a full-time program of study which is approved by the dean of the college or school.

At UAF, the most recent catalogue states that high school graduates qualify for admission if they have a high school grade point average of 2.0 (C) or higher. If the applicant has high school grades which are less than 2.0, he/she may be considered for probationary admission to UAF, based upon the student's performance on the American College Testing Program (ACT) or the Scholastic Aptitude Test (SAT).

The recent retention study conducted by the University, although preliminary, suggests that many admitted full-time students are ill-prepared for college level work at the three University centers. This alone is not particularly unusual; many institutions of higher education throughout the nation have the same experience. What appears to be missing at the University of Alaska campuses, however, is a comprehensive developmental program designed to enable these students to overcome their academic deficiencies and to achieve at their fullest capacities. Without such a program, the open door admission becomes a revolving door. Developmental education, as defined here, should be a comprehensive educational program. Although used interchangeably with the term "remedial education," developmental education goes beyond traditional remediation. While remedial education deals with the problems of poor student academic preparation, developmental education helps students develop skills necessary for success in college, and includes both academic skills and social or cultural adjustments.

It is inappropriate for a campus to admit students who are unprepared without providing those services which are designed to help them succeed. If access is to be available to all, it is incumbent that developmental or remedial services be available to all who need them.

It is important that a dialogue relating to student achievement at the postsecondary level be established between the high schools in the State and the university campuses. A major component of the dialogue should be the academic expectations the University has for incoming freshmen. That is, the University should clearly and explicitly delineate those competencies they expect matriculants to possess to ensure a high probability of academic success. Moreover, arrangements should be made to provide information about the academic achievement of the college freshmen to the high schools they attended. Along with a developmental program which provides a variety of learning assistance activities, major strides can be made to enhance the retention rate of the students at all of the university campuses.

\* \* \* \* \*

STRATEGY 11. AS PART OF ITS ONGOING PROGRAM REVIEW, THE UNIVERSITY SHOULD CONTINUE TO AVOID UNNECESSARY DUPLICATION OF PROGRAMS AND GIVE SPECIAL ATTENTION TO DECISIONS ON ADDITIONAL PROGRAMS AT THE GRADUATE LEVEL.

Academic program development and review is fundamental to the orderly growth of the University system. Without careful analysis of student interest, cost, and program growth as it relates to the institutional mission, there is danger of an unnecessary proliferation of new courses or the continuation of inappropriate courses. In short, enhancing and maintaining academic efficiency requires the University to continually assess its offerings.

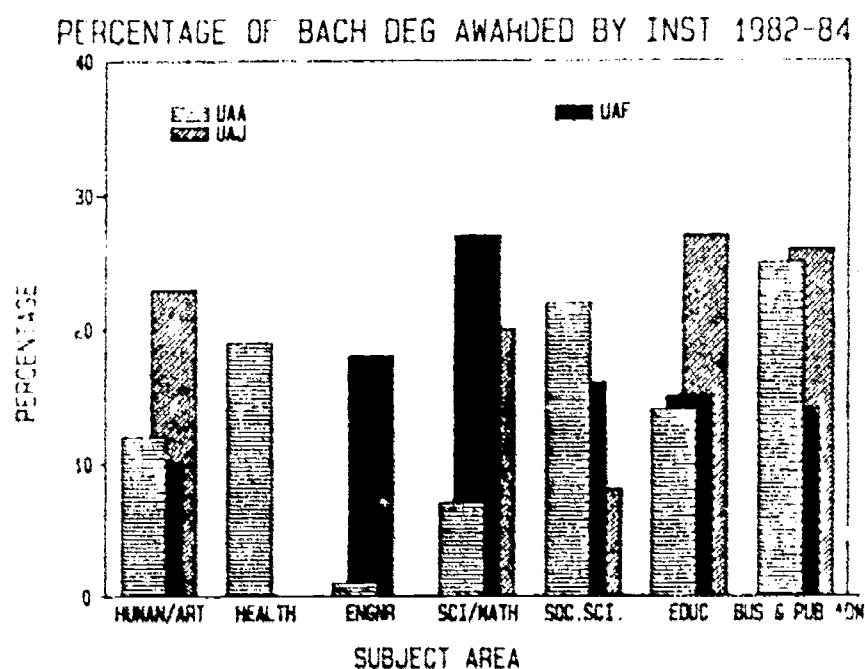
Mission statements of each of the University centers have been developed (see Appendix E in Volume II). Such statements have attempted to depict special areas of emphasis in order to provide each center with a distinctive character and to eliminate needless duplication. The University of Alaska, Anchorage, because of its location, emphasizes programs that focus on the social, human service, organizational, economic, physical, biological, and cultural dimensions of the State's major population center. Instruction is provided in the arts, sciences, health and social services, urban planning, communications, education, business, public administration, and engineering with particular emphasis on urban and regional development in a northern environment.

In Fairbanks, the University reflects its historic role as a land grant institution. As the State's primary residential institution, the University of Alaska, Fairbanks offers baccalaureate and masters degrees in the arts, sciences, and professional education as well as selected doctoral programs in areas of particular strength.

Located in a major governmental center on inland waters, the University of Alaska, Juneau has been assigned primary responsibility for the sea grant functions of the statewide system. General education in the liberal arts forms the core of the educational program while baccalaureate, professional, and masters degree programs are offered in the applied areas of business, fisheries, public administration, and teacher education.

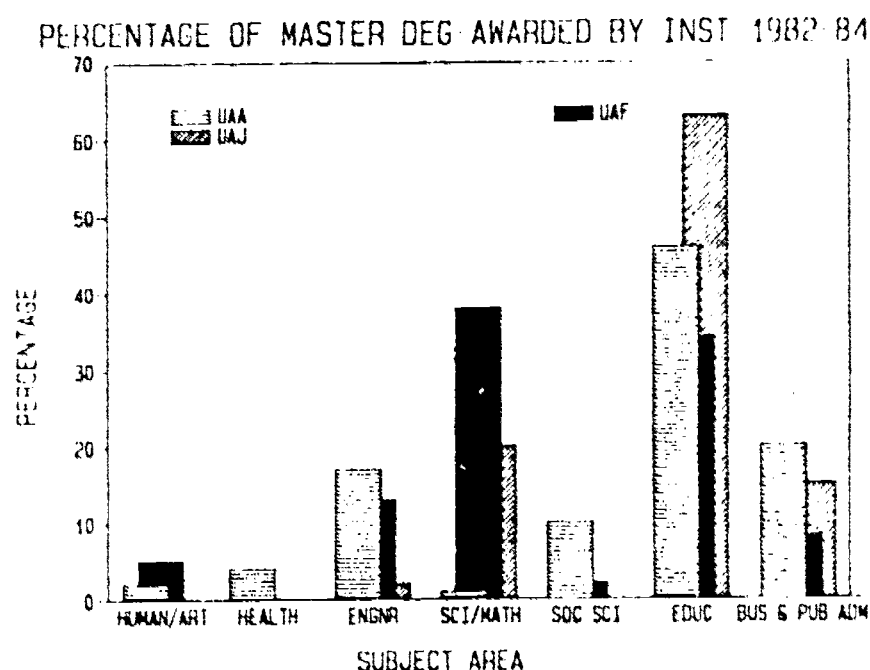
One effective way of examining the missions of the University centers is by focusing upon the proportion of degrees awarded by subject areas. Figure 6 illustrates graphically the percentage of bachelors degrees awarded by subject area for the past three years at each of the institutions. In general, the degrees awarded should, and do, reflect the institution's mission. All the institutions show a common core of liberal arts and sciences. The University of Alaska, Anchorage reflects a strong commitment to health professions, education, and business and public administration. The University of Alaska, Fairbanks exhibits particular emphasis in engineering, natural sciences, and math. The University of Alaska, Juneau features offerings in the natural sciences, education, and business and public administration.

FIGURE 6



At the masters level, however, a different configuration is evident. Figure 7 displays the percentage of masters degrees awarded by subject areas for the past three years at each of the University centers. It is clear that professional education and science programs represent major portions of the graduate offerings. Indeed, education alone provides over a third of all degrees awarded at the University of Alaska, Fairbanks; approximately half of the degrees awarded at the University of Alaska, Anchorage; and almost two-thirds of the degrees awarded at the University of Alaska, Juneau.

FIGURE 7



When addressing the concept of program duplication, it is essential to ask the question if the duplication is needless or necessary. Any significant analysis of the costs of duplication must consider not only the direct cost to the institution and the system, but also total cost to the State. Studies show that proximity of colleges to population is a major factor in determining where people go to college. In many cases it



is the proximity of educational offerings which allows the student to continue to live at home, to continue to work, and to avoid the costs associated with moving to a single location where a non-duplicated program is available. If duplication were completely eliminated, the State's direct cost might be lowered, but the total cost to society would be greatly increased as higher education became less readily available to many of the people in the State.

The Commission suggests that complete elimination of duplication is both unrealistic and unwise. In view of the common purposes of the higher educational institutions, duplication in the basic arts and sciences at the undergraduate level is both necessary and desirable. The foundations of knowledge such as mathematics, the natural sciences, the social sciences, and the humanities and fine arts, are disciplines which not only contribute to the intellectual, personal, and social development of the student, but also serve as the roots of specialization in any academic or professional field.

However, duplicating programs of specialization beyond these basic foundations may warrant that certain additional limitations be placed upon their development. Table 3 lists the masters degree programs which are offered at more than one campus and indicates the total degrees awarded during the past six years. Several of the programs have averaged four or less graduates per year. The Commission suggests that duplicative graduate and professional programs should be developed only when they are consistent with the institution's mission and only if they comply with the following guidelines:



1. A duplicating program at the masters level should be authorized on the basis of need, cost, and institutional mission, provided that the annual number of bachelor degrees in the department (all subspecialties) averages ten or more for the previous five years.
2. New programs should not be undertaken in the absence of substantial student interest and social need. Evidence of social need includes demand for its graduates, and negative social consequences if the program is not provided.
3. New programs should not be initiated if other institutions are meeting the State's social needs and if Alaskan citizens have access to such programs on a non-discriminatory basis.
4. No program should be undertaken unless its quality can be assured by the human and economic resources of the institution.
5. High cost programs should be developed only when there is compelling justification in terms of social need and when there is strong evidence that the program quality will be assured by the institution's resources.

TABLE 3

DUPLICATE MASTERS DEGREE PROGRAMS NUMBER OF MASTERS DEGREES AWARDED SINCE 1979						
PROGRAM	UAA	UAF	UAJ	APU	TOTAL	6 YEAR AVERAGE
Fisheries	-	11	13	-	24	4
Business Administration	40	52	3	-	95	16
Education	248	111	53	62	484	81
Vocational Education	-	2	3	-	5	1
Arctic Engineering	5	5	-	-	10	1
Civil Engineering	10	15	-	-	25	4
Engineering Management	36	13	7	-	56	9
Environmental Quality Engineering	5	3	-	-	8	1
Environmental Quality Science	3	10	-	-	13	2
Science Management	7	6	-	-	13	2
English	11	18	-	-	29	4
Biology	2	25	-	-	27	4

\* \* \* \* \*

STRATEGY 12. THE ADDITION OF NEW FACILITIES FOR THE UNIVERSITY OF ALASKA SHOULD CONTINUE TO BE THE RESULT OF CAREFUL PROGRAM PLANNING AND ONLY AFTER ALL ALTERNATIVES HAVE BEEN EXHAUSTED.

The Capital Improvement Plan of the University of Alaska for the years up to 1991 provides detailed summaries of available space and the capital needs of each of the campuses. For the first time in its history, the University of Alaska has information of this kind and the effort should be applauded.

The University, at present, possesses approximately 3,150,000 gross square feet of facilities whose total worth is about \$410 million. The

FY 1986-91 capital request for major projects alone equaled over 2,700,000 gross square feet at a cost of around \$750 million. In addition, annual operating costs associated with these requests would be close to \$21 million. Certainly, these demands for additional facilities would seem to exceed future available resources and the University, recognizing this, has since placed a limit of \$300 million on the requests for major projects.

The Commission endorses the initial planning statement for FY 1987-88 developed by the University. The statement suggests that . . . "a system priority over FY 1987-88 will be to bring each campus enough new funding to provide a minimum general education core faculty and meet current demands for lower division transfer credit core curriculum." Along with funding the operating and maintenance costs of new facilities, enrollment growth, and any extraordinary inflation, it is planned that this will be the major thrust of the University's operating budget request. The request of additional facilities should relate directly to this plan.

The Board of Regents of the University is currently grappling with the complex issues surrounding facilities planning. However, a few comments and observations are appropriate as the University's facilities planning relates to the educational needs of the entire State.

1. The University should continue to explore creative academic scheduling techniques to maximize facilities usage (see Strategy 17).

2. Cooperative agreements for facilities usage should be extended to both the public and private sectors. In particular, negotiations to use unoccupied academic space at Alaska Pacific University and Sheldon Jackson College should be explored.
3. The criterion of 840 minutes for the completion of one credit hour seems to be excessive and tends to exacerbate scheduling problems, especially where facilities are limited. The 840-minute requirement should be reduced to 750 minutes per credit hour. All of the units of the University have reduced the criterion to 750 minutes except the University of Alaska, Fairbanks. By reducing the credit hour requirement to 750 minutes, judicious scheduling can produce at least two extra class periods per week between the hours of 8 a.m. and 5 p.m. for each classroom. At the University of Alaska, Fairbanks, a change from 840 minutes to 750 minutes per credit hour would accommodate at least 2,400 additional course enrollments per semester in classrooms alone. Of course, additional course enrollment can be accommodated during evening hours as well.

(The Commission has included this recommendation twice in its review of the University's budget. However, because the need for additional facilities is becoming increasingly accute, it is appropriate to include it within this plan.)

4. As noted in the University's planning statement, innovative financing will be examined for use when possible. A recent survey by the Department of Facilities Planning of the University of Idaho describes the source of funds used to construct or remodel academic facilities at the public universities in each of the 50 states. A summary of the results of the survey are included in Appendix F in Volume II.

\* \* \* \* \*

STRATEGY 13. TO IMPROVE THE QUALITY AND EFFICIENCY OF VOCATIONAL EDUCATION DELIVERY, THE DEPARTMENT OF EDUCATION AND THE UNIVERSITY OF ALASKA SHOULD INSTITUTE REGIONAL VOCATIONAL EDUCATION PROGRAMS BETWEEN THE HIGH SCHOOLS AND THE COMMUNITY COLLEGES.

Secondary vocational programs, community colleges, and vocational/technical institutions, should develop articulation procedures in order to avoid repetition between the secondary and postsecondary sectors. Programs to link the two levels, commonly called regional vocational education programs, should be implemented by the local school districts, and community college and voc/tech institute officials. The basic premise here is that, given limited resources, providing identical curricula for vocational education at two institutions within the same geographic region is poor stewardship of the State's resources. One model program that approaches this concept is found in a joint agreement between Anchorage Community College and the Anchorage school district. This agreement provides for a sequence of courses in the Aviation Maintenance Technology Program. Using sophisticated equipment available

at Merrill Field Aviation Complex, both high school students and community college students can enjoy the advantage of one articulated curriculum devoid of duplication.

Consideration should also be given to development of an advanced vocational placement program, similar to that for academic subject areas, to give secondary vocational students the opportunity to accelerate their postsecondary training.

Cooperation between and within education programs is a significant method for increasing effectiveness while controlling costs. In some cases, adult and postsecondary programs may be better able to meet specialized equipment and staffing needs of students in the secondary schools. High schools within commuting distance of a community college or vocational/technical institute can avoid duplication through arrangements for greater student use of these facilities. On the other hand, several high schools throughout the State possess excellent vocational education equipment and it would be appropriate for the community colleges to utilize it for their students. Since a large number of community college students attend classes in the evening, there appears to be ample opportunity for the sharing of resources.

Regional vocational articulation practices, where secondary vocational programs are directly integrated with community college or vocational/technical institute programs, and vocational advanced placement programs, require a great deal of cooperation and coordination. Indeed, it cannot be stated too strongly that cooperation between the Department of Education and the University of Alaska is an essential prerequisite

before effective solutions to the problems of vocational education can be reached. Therefore, it is recommended that the Department of Education and the University assign appropriate personnel with the specific task of establishing lines of communication and proposing policy relative to the elimination of duplicate vocational education programs and courses.

Many of the community colleges have established vocational advisory committees, and the Commission encourages the continuation of these very valuable resources. The committees should have a membership drawn partly from the program staffs of the appropriate community colleges, vocational/ technical institutes, high schools, and partly from business, industry, and labor. Since job market areas will vary, the membership should vary as well, depending on the occupation. These committees should be representative of all the public vocational education providers in the job market area and be advisory to the respective schools, institutions and the State Board for Vocational Education, thereby ensuring that services are coordinated across programs and not unnecessarily duplicated.

\* \* \* \* \*

STRATEGY 14. THE STATE SHOULD EXPLORE THE POSSIBILITY OF ENHANCING THE EFFICIENT USE OF EDUCATIONAL FACILITIES BY ENTERING INTO CONTRACTUAL RELATIONS WITH INDEPENDENT COLLEGES AND UNIVERSITIES IN ALASKA AND THEREBY REALIZE COST SAVINGS TO THE STATE.

Independent colleges and universities play an important role in meeting the educational needs of the citizens of Alaska. They directly serve the public interest as integral partners in a pluralistic system of higher education. While helping to enhance access, choice, and diversity, independently governed institutions are an educational alternative which provides quality and value-oriented education at substantial financial savings for the State. Unlike state-operated institutions whose revenues come principally from appropriations, independent colleges and universities derive most of their income from private sources.

Faced with the specter of rapidly declining revenues, public interest requires that the State focus its education policy goals on achieving the most efficient and equitable use of all the resources available. In short, a public policy decision which results in wasted private facilities while funds are sought to enlarge public institutions is unwise stewardship in this time of scarcity. More to the point, building new classrooms or setting up new laboratories is more expensive, by far, than continuing to use those already in place. This strategy rests upon the long established practice of using public resources to purchase services of the State's choosing from the private sector when and where it is economically and programmatically advantageous for the State to do so.



Providing financial support to independent institutions is not uncommon in the United States. Seventeen states provide direct aid through methods such as unrestricted appropriations, contracts for programs, grants, or aid based on FTE enrollment. Many states contract with individual independent institutions to provide educational programs and services which might not otherwise be available in the state.

Through a variety of programs, every state offers financial assistance to students attending independent institutions, and a number of states have tax policies that relate to the treatment of educational costs. These policies include exemptions of educational expenses, credits for contributions to institutions, personal exemptions for dependents enrolled in independent colleges, deductions for dependents in college, and "IRA-like" funds for education.

The Commission is aware that Article VII, Section 1 of Alaska's Constitution prohibits the payment of money from public funds "for the direct benefit of any religious or other private educational institutions." The Commission is also aware that a tuition equalization program, established in 1972, was declared unconstitutional by the Alaska Supreme Court and that a 1976 constitutional amendment, which would have legitimized the program, failed to be adopted by the voters.

Nevertheless, an expansion of the State's educational obligations can be achieved through means which are not contradictory to the spirit and intent of Article VII. Some examples of such methods are:

1. contracting for services in special academic program areas and in meeting other State obligations for postsecondary educational opportunities;
2. long-term, low interest loans for capital construction and renovation projects modeled after existing federal programs for private education and Alaska programs for the private business sector; and
3. in the event of a state income tax, provision of tax incentives to parents of students attending independent Alaskan higher educational institutions.

The Commission strongly encourages positive action to ensure a more effective and efficient use of resources and facilities. Alaska is entering a new era characterized by diminishing revenues. Also, the relationship between the University of Alaska and independent institutions has changed dramatically. In the mid-seventies, the University had yet to experience rapid expansion and the private sector was tenuous at best. Today, over 32,000 students attend the University of Alaska, while two independent institutions, Alaska Pacific University and Sheldon Jackson College, enroll close to 1,000 students. Both independent institutions are experiencing a renewal of vigor and offer a variety of excellent programs. The State of Alaska should utilize these valuable resources as much as possible to benefit its citizens.

GOAL: IMPROVE ACCESS to accommodate those citizens who desire postsecondary education.

STRATEGY 15. THE COMMISSION RECOGNIZES AND ENCOURAGES THE EDUCATIONAL CONTRIBUTION OF THE INDEPENDENT INSTITUTIONS OF HIGHER EDUCATION IN ALASKA.

As noted in Strategy 14, the independent colleges and universities, Sheldon Jackson College and Alaska Pacific University, play an important role in meeting the educational needs of the citizens of Alaska. In particular, the independent sector promotes diversity. Kingman Brewster, President Emeritus of Yale University, noted that independent colleges and universities ensure that government alone will "never become the final arbiter, the principal allocator, the controller of all the society's resources devoted to the advancement of knowledge and its transmission to succeeding generations."

Independent colleges also have the luxury of being small. This gives them the opportunity to be flexible, ability to innovate, and the wherewithall to take risks with new programs without having to move large bureaucracies or require enormous amounts of capital. Also, independent institutions promote human values; unlike public institutions who must maintain institutional neutrality on many fundamental issues, independent institutions, by contrast, are free to place humanistic values at the core of their curricula.

Sheldon Jackson College, located on a 345-acre campus in Sitka, offers associate and baccalaureate degrees in several academic programs. Historically, the college has provided a supportive residential experience to Alaska Natives. Currently, 62 percent of the student body is comprised of Alaska Natives, many of whom come from rural and small schools.

Alaska Pacific University, located in Anchorage, provides an educational experience which addresses four environments that make up the human condition: the natural environment, the individual environment, the social environment, and the spiritual environment. Eschewing the traditional major, Alaska Pacific University offers concentrations which link these four environments to knowledge and career areas in order to prepare its students for the future.

In sum, the Commission supports the educational commitment of the independent sector. These institutions constitute a valuable resource which has proven to be a powerful force in nurturing values, cultivating ideas, and solving problems.

\* \* \* \* \*

STRATEGY 16. THE UNIVERSITY OF ALASKA, ALASKA'S INDEPENDENT UNIVERSITIES AND COLLEGES, AND ALASKA'S HIGH SCHOOLS SHOULD CONTINUE TO EXPLORE AND EXPAND HIGH SCHOOL ADVANCED PLACEMENT PROGRAMS TO ENHANCE ARTICULATION BETWEEN HIGH SCHOOL AND COLLEGE.

The basic premise of the High School Advanced Placement Program is that outstanding high school seniors, given outstanding instruction in college-level material, can demonstrate proficiency in college coursework through college-level examinations. The program would allow academically talented high school students to engage in college-level work while remaining in high school. At the completion of the course in the high school, students would be given the opportunity to take college-level examinations, which would essentially be considered university departmental challenge examinations. The examinations would be graded on a standard equal with university freshmen. The underlying pedagogical basis for the High School Advanced Placement Program is that education is a continuum of learning experiences, and the following fundamental characteristics of such a program reflect this continuum.

- The program provides that the best high school students, taught by some of the best high school teachers with assistance from highly capable professors, engage in educational experiences and opportunities which otherwise might not be available. The high schools choose the student participants. The high schools also choose the teachers, selecting only their most capable teachers since the program requires excellence. The University chooses its professors to work with the high school teachers.

- The syllabus which is used in the classroom is created or modified by the university professor. Recommendations are made by the professors concerning supplemental materials, and in many instances, professors would actually visit and/or teach several times during the school year.
- The university professors design the examination which is given at the end of the semester, oversee the administration of the examination, and most importantly, grade the examination on a standard comparable to the university freshman. The grade assigned by the high school teacher for each student in no way affects the college grades. Thus, it would be possible for a student to earn an "A" from a high school teacher based on that teachers assignments, and yet receive a lower college assessment from the university professor. The university professor would provide documented assurance that any university credit earned is justified in terms of the content mastery demonstrated through rigorous examinations given to the high school students.
- The primary benefit of the program is that students would not have to travel any distance to take courses. They would not have to leave the high school, either on a full-time or part-time basis, in order to engage in college-level work. Most importantly, students would gain access to college-level credits and college-level materials. Students and their parents could also save money by not having to repeat the courses in college.

Programs similar to the one described here are being conducted successfully at Syracuse University and within the states of Oregon and Maryland. Also, the State Educational Department of New York and the Regents of the University of the State of New York have firmly supported this type of program. "The Articulation of Secondary and Postsecondary Education," a position paper published by the State Education Department in New York, contains this pertinent item:\*

"The Regents encourage post-secondary institutions, in cooperation with the secondary schools, to provide challenging opportunities for high school students who have demonstrated intellectual and social maturity. These opportunities might include early admission to college, collegiate-level work offered in the high school, or other means of providing advanced work."

Many students who enter the senior year of high school with thoughts of easily earning their last one or two units necessary for high school graduation would now be able to enter the senior year with increased dedication to learning. The rigorous program would be a challenge to the intellectual resources of each individual student and most importantly, the entire educational system of the State would be enriched through the cooperative efforts between the high schools and the postsecondary education community. This model can expedite the education of students without sacrificing quality.

\* \* \* \* \*

---

\* John Sartorius, "High School Advanced Placement Program Position Paper", unpublished report, Salisbury, 1974.



STRATEGY 17. THE UNIVERSITY OF ALASKA SHOULD CONTINUE TO EXPLORE AND IMPLEMENT SCHEDULING ALTERNATIVES THAT IMPROVE ACCESS FOR THE OLDER, PART-TIME STUDENT.

Approximately 75 percent of the students that attend the University of Alaska are enrolled on a part-time basis. Approximately 7 out of 10 part-time students are over 25 years old. Indeed, over 50 percent of the part-time students are 30 years old or older. Without question, the University has been, and continues to be, a valuable educational resource for the mature adult learner. Thus, it is appropriate that the University devise curricular strategies specifically designed to accommodate the needs and interests of this important clientele. Put another way, the non-traditional learner demands a non-traditional educational response.

In general, the adult learner has specific characteristics that relate to educational delivery. These characteristics include self-direction, maturity, and decision-making ability. These aptitudes lend themselves to various types of innovative learning environments which can often extend beyond the college campus. Enough information has now been gathered from various sources about the adult learner in Alaska to offer two interrelated generalizations: (1) because of various factors, many adult learners have difficulty persisting for a full 15 to 16 week semester, and therefore, (2) short, intensive educational experiences are preferred by many adult learners.



- Approximately 140 baccalaureate programs designed specifically for adults are available in 40 states in the United States, most of them set within established public or private institutions. In an excellent report entitled "Adult Baccalaureate Programs", prepared by the ERIC Clearing House on Higher Education, several ideas and suggestions concerning adult education are presented and bear repeating here.
- A considerable amount of research concerning adults' self-perception suggests that adults' view of themselves as learners and their learning needs determine how they approach formal education and what they expect to gain from it. Adult students view themselves as self-directing individuals, capable of making decisions about their education and accepting the consequences of their actions. They are able to engage in self-diagnosis of their educational needs and they prefer action-oriented learning techniques.
- Adults enrolled in individually designed programs are able to relate their learning to personal concerns and to make learning compatible with their work and family environment. These programs afford a variety of learning modes, which include group learning, independent study options, documenting prior or experiential learning, and formal college courses. Many of these adult programs encourage students to include in their degree programs learning that has occurred outside the host institution.
- The role of faculty in adult programs is expanded beyond that of classroom teacher to working with adults in independent learning settings as mentors, learning facilitators, or learning consultants.

- Many colleges are making their instructional schedules more flexible to accommodate adults. Modular scheduling that includes evening offerings is quite common, and increasingly, short, intensive programs are being made available through weekend colleges, seminars, institutes, and clinics. Moreover, some programs were described as being strictly self-paced, with no specified time schedule of operation.

- Faculty have been urged to adopt a particular set of attitudes and behaviors as they carry out their instructional functions with adult learners. The student-teacher model gives way to an emphasis on the "student-mentor" relationship. The faculty mentor serves as a facilitator in helping learners determine their needs and discover what resources can be brought to bear on these means.

In summary, the Commission recommends that mature citizens be given more consideration in postsecondary education and echoes the following statement by the Commission on Non-Traditional Study: "[the Commission advocates a program that] puts the student first and the institution second, concentrates more on the former's needs than the latter's convenience, encourages diversity of individual opportunity rather than uniform prescription, and de-emphasizes time, space and even course requirements in favor of competence and, where applicable, performance."

\* \* \* \* \*

STRATEGY 18. THE STATE AND THE UNIVERSITY SHOULD EXPLORE THE POSSIBILITY OF PARTIALLY FINANCING THE COMMUNITY COLLEGES THROUGH LOCAL TAXING AUTHORITIES.

Most community colleges in the United States receive a share of their total financial support from local revenues. The local appropriations to community colleges are generally derived from taxes levied on district property values. According to a 1982 survey by the National Association of College and University Business Officers, the median percentage of revenues for community colleges coming from local governments was 12.2 percent. Tuition and fees accounted for 17.4 percent of total revenues and state appropriations equaled 54.6 percent.

In Alaska, local governments contribute little or no financial support to the community colleges located in their district. The exception is Valdez which has historically contributed substantial funds to Prince William Sound Community College; for FY 1985, Prince William Sound Community College received \$576,500 from the local municipality.

As State revenues continue to decline, it may now be time to supplement the budget of the community colleges through increased local funding. It is altogether appropriate to provide local funding since the central mission of the community college is to serve the local citizens. It should also be noted that an increase in funding by the local community may require a re-evaluation of the policy-making authority of the local citizens. That is, it is reasonable to assume that along with increased local funding comes increased local participation.

One problem which immediately arises is that the capacity of local governments to provide revenues to the community college varies considerably. In general, however, local governments for eight of the eleven community colleges in Alaska have a sufficient tax base to provide some funding. Those community colleges in the western rural area of the State have, by far, the least ability to contribute.

Table 4 shows the percentage of the local community college budget which could be provided by local funds if a tax rate of .5 mills was levied on the full value of property.\* With the exception of the rural community

TABLE 4

PERCENTAGE CONTRIBUTION TO THE LOCAL COMMUNITY COLLEGE BUDGET USING .5 MILL ASSESSMENT OF 1984 FULL VALUE DETERMINATION OF LOCAL PROPERTY					
Community College	1984 Full Value Determination of Local Property	Per Capita Value	.5 Mill Assessment	FY84 CC Budget	% Contribution to Community College Budget
Anchorage	\$13,199,355,800	\$ 54,089	\$6,599,678	\$24,468,000	27%
Chukchi	\$ 85,041,480	28,528	42,521	1,067,900	4%
Islands	\$ 756,351,400	92,002	378,176	1,345,600	28%
Ketchikan	\$ 711,341,600	49,696	355,671	1,827,700	20%
Kodiak	\$ 651,444,700	48,330	325,722	2,396,500	14%
Kenai Peninsula	\$ 3,102,640,000	79,720	1,551,320	4,283,700	36%
Kuskokwim	\$ 170,370,900	46,284	85,185	4,650,000	2%
Matanuska-Susitna	\$ 1,773,384,960	52,112	886,692	2,158,200	41%
Northwest	\$ 207,050,000	55,480	103,525	2,331,400	4%
Prince William Sound	\$ 1,720,125,130	466,538	860,063	2,119,900	41%
Tanana Valley	\$ 3,627,908,630	52,100	1,813,954	5,338,300	34%

\* Alaska Taxable, Alaska Department of Community & Regional Affairs, Volume XXIV, January 1985.

colleges mentioned, the percentage range from 14 percent at Kodiak Community College to 41 percent at Matanuska-Susitna Community College and Prince William Sound Community College.

Table 5 illustrates the mill rate that would have to be assessed on the full value of property for the local government to contribute 10, 20, or 30 percent of the local community college budget.

TABLE 5

MILL RATES ON FULL VALUE DETERMINATION OF LOCAL PROPERTY NEEDED TO FUND 10, 20, AND 30 PERCENT OF THE LOCAL FY84 COMMUNITY COLLEGE BUDGET						
Community College	10% of CC Budget =	Mill Rate	20% of CC Budget =	Mill Rate	30% of CC Budget =	Mill Rate
Anchorage	\$2,446,800	0.19	\$4,893,600	0.38	\$7,340,400	0.57
Chukchi	106,790	1.26	213,580	2.51	320,370	3.78
Islands	134,560	0.18	269,120	0.36	403,680	0.54
Ketchikan	182,770	0.26	365,540	0.52	548,310	0.78
Kodiak	239,650	0.37	479,300	0.74	718,950	1.11
Kenai Peninsula	428,370	0.14	856,740	0.28	1,285,100	0.42
Kuskokwim	465,000	2.73	930,000	5.46*	1,395,000	8.19*
Matanuska-Susitna	215,820	0.12	431,640	0.24	647,460	0.36
Northwest	233,140	1.13	466,280	2.26	699,420	3.39
Prince William Sound	211,990	0.12	423,980	0.24	635,970	0.36
Tanana Valley	533,830	0.15	1,067,660	0.30	1,601,490	0.45

The Commission realizes that there are other competing services in the local areas which are deserving of local support. Moreover, the

\* Exceeds tax limitation. Second class cities may not levy taxes which exceed .5% of the assessed value of property.

Commission is also cognizant of the decreasing federal support which may further constrain the ability of the local municipality to provide revenues to its community college. It is therefore recommended that local funding of the community colleges be phased in over a several year period. This procedure will allow the municipalities to assess the fiscal impact in a rational and systematic fashion.

\* \* \* \* \*

STRATEGY 19. THE UNIVERSITY OF ALASKA SHOULD BE ENCOURAGED, THROUGH BUDGETARY SUPPORT, TO EXPAND THE TELECOMMUNICATIONS EFFORT TO ENHANCE ACCESSIBILITY AND IMPROVE EDUCATIONAL DELIVERY. THE BUDGETARY SUPPORT SHOULD BE DIRECTED TOWARD INCREASED SUPPORT OF FACULTY DEVELOPMENT AND PRODUCTION OF SOFTWARE FOR TELEVISION AND COMPUTERS.

The University of Alaska Instructional Telecommunication Service (UAITS) was established in 1980 and at present serves all units of the University. The UAITS manages and operates the LEARN/Alaska Network (LAN), which consists of statewide television, audio conferencing systems, and a demonstration teletext system. The Network serves four constituencies: (1) University of Alaska faculty and students; (2) the Alaska Department of Education, and Alaska's 53 school districts, their staff and students; (3) non-profit publicly funded educational agencies and their clients; and (4) the public viewers of the instructional television channel. UAITS also provides instructional support services to university faculty using the LAN. The LAN provides services to over 200 communities for audio conferencing and over 230 communities receive instructional television.

This distance delivery approach shows great promise for improving access, both in quantity and quality of courses offered, to students in remote parts of the State. Instructional television, audio conferencing, and computers allow for greater flexibility and convenience to the learner. Distance learning permits the student to be exposed to a variety of expert teachers. In addition, statewide programs such as nursing and paralegal studies can be made available to interested students regardless of geographical location.

As State revenues decline, UAITs becomes increasingly important to the University's ability to serve students throughout the State. Absent the ability to continue to construct educational facilities distance learning can be a viable, and indeed exciting, alternative. The potential of the new and ever changing technology has yet to be tapped. It is ironic that, although Alaska has been recognized as a forerunner in educational information technology, telecommunications in the State is still in its infancy. It appears that its value in educational delivery is only limited by the creativity and initiative of its users.

Distance delivery can be a very efficient method of providing educational service. The necessary capital outlay has already been spent to establish the instructional television service and extending this service to additional students represents only marginal or incremental cost increases. This approach can enjoy a lower per-student cost than classroom or community based programs.

The tremendous potential of this delivery system notwithstanding, there are problems and issues that must be addressed. These include the lack



of adequate library resources for distance learners and faculty assistance. In particular, there is need for increased support of faculty development to effectively incorporate telecommunication into the instructional process. Also, support must be expanded for the production of software for television and computers, which is specific and appropriate to instruction and curricula in Alaska. Moreover, there is the more fundamental question of accommodating the teaching process to match the learning style of the student. Still, it is in the State's best interest to fully exploit the capacities of electronic media to address existing patterns of adult participation in education.

\* \* \* \* \*

STRATEGY 20. TO INCREASE THE IN-STATE COLLEGE PARTICIPATION RATE OF HIGH SCHOOL GRADUATES, THE UNIVERSITY OF ALASKA SHOULD EXPAND ITS RECRUITMENT EFFORTS WITH PARTICULAR ATTENTION TO PROVIDING INFORMATION ABOUT THE AVAILABILITY OF IN-STATE ACADEMIC PROGRAMS.

Although the information is somewhat dated, the latest national data provided by the National Center for Higher Education Management Systems (NCHEMS) concerning the college participation rates of Alaskan residents indicates that Alaska compares favorably with other states. For instance, in 1978, Alaska ranked fifth when comparing the participation rates of first-time resident enrollment in public institutions per 1,000 population (see Table 6). Although comparable information is not available from other states, more recent information collected by the Commission shows that approximately 24 percent of the 1984 graduating high school seniors attended in-state colleges in the fall of 1984.



TABLE 6

**PARTICIPATION RATES OF FIRST-TIME  
RESIDENT ENROLLMENT IN PUBLIC  
INSTITUTIONS PER 1000 POPULATION 1978**

<u>Rank</u>	<u>State</u>	<u>Per 1000 Population</u>	<u>Index</u>	<u>Rank</u>	<u>State</u>	<u>Per 1000 Population</u>	<u>Index</u>
1	Arizona	15.9	196	26	Delaware	7.1	87
2	Oregon	14.3	176	27	Minnesota	7.1	87
3	Wisconsin	12.9	160	28	Tennessee	7.0	86
4	California	12.6	156	29	Missouri	7.0	86
5	Alaska	12.1	149	30	Montana	6.7	82
6	Wyoming	10.8	133	31	Ohio	6.7	82
7	North Dakota	10.8	133	32	Massachusetts	6.4	79
8	North Carolina	10.5	130	33	Connecticut	6.4	78
9	Nebraska	10.4	128	34	South Dakota	6.3	78
10	Nevada	10.3	127	35	Rhode Island	6.2	76
11	Maryland	10.1	125	36	Indiana	6.1	75
12	Illinois	10.0	124	37	Florida	6.0	75
13	Utah	9.7	119	38	New York	6.0	74
14	Michigan	9.3	115	39	Idaho	6.0	74
15	Mississippi	9.3	115	40	Arkansas	6.0	74
16	Kansas	9.1	112	41	New Mexico	5.9	72
17	Texas	8.9	110	42	West Virginia	5.6	70
18	Hawaii	8.7	108	43	Kentucky	5.3	65
19	Oklahoma	8.6	106	44	New Hampshire	5.1	63
20	South Carolina	8.6	106	45	Virginia	5.1	63
21	Colorado	8.4	103	46	Pennsylvania	5.0	62
22	Iowa	8.1	100	47	Washington	4.5	56
23	Alabama	7.8	96	48	Maine	4.3	53
24	Louisiana	7.3	89	49	Georgia	4.2	52
25	New Jersey	7.1	88	50	D.C.	4.2	52
				51	Vermont	4.0	50
					U.S. Average	8.1	100

A myriad of factors affect college participation rates. These include, but are not limited to, parents' education, social class, peer pressure, community values, and cost. Some factors which are related to whether or not students attend colleges in Alaska are program availability, location, cost, weather, and size. One notion that should not be overlooked is that many high school seniors tend to think that the local

college is not as "good" as the colleges and universities in other states merely because of its proximity. It is to this issue that this recommendation is addressed.

The University of Alaska should intensify its recruitment procedures with the primary purpose of making high school students more aware of the opportunities available at the individual campuses. At the heart of the recruitment effort should be the goal of improving the "fit" between the students' needs and the institution's offerings and resources. The better the fit, the more likely students will enroll and successfully complete their education. These efforts also can lead to the overall improvement of the colleges program and capacity to predict fiscal and human resource demands.

There are several strategies which can be used to increase the awareness of high school students of the services offered by the University. High school visitations by college representatives, both administrators and faculty, is a basic activity in the admissions process. By using services like the College Entrance Examination Board Student Search Service, direct mail can be sent to seniors. These materials should be designed to highlight those qualities which are particularly relevant to the kinds of students the college seeks. Also, phone-a-thons are becoming a popular and effective method of communicating personally with prospective students.

In sum, developing techniques which serve to enhance the information about the University provided to prospective students benefits both parties. The University will increase the pool of potential students

and, perhaps more importantly, high school seniors will become more knowledgeable consumers and will be able to make a more informed choice about their future educational plans.

\* \* \* \* \*

STRATEGY 21. A STATE SCHOLARSHIP PROGRAM FOR EXCEPTIONAL STUDENTS SHOULD BE ESTABLISHED.

Alaska has no competitive academic scholarship program. Alaska's top academically talented high school seniors can many times receive better financial aid by attending out-of-state institutions than in-state. This should be corrected. Alaska's institutions should not be placed at a disadvantage in competing for students who display high achievement, nor should Alaska's brightest students receive anything less than full encouragement to remain in Alaska for their schooling.

The only state-funded scholarships available at present, other than specific tuition waivers, are through the University of Alaska, Fairbanks. These include two programs: a Native Alaskan Scholarship and a State Room Scholarship.

The Alaska State Scholarship Program should be established to provide recognition of academic excellence and financial assistance to Alaska's academically gifted students. The scholarships could be need-based or non need-based, but should require a high academic performance record to maintain eligibility throughout the undergraduate program of study.

The scholarships should be in the amount of \$4,000 per academic year, and preference should be given for in-state attendance. Appendix G in Volume II contains sample legislation establishing a competitive, non need-based scholarship program for Alaska.

\* \* \* \* \*

STRATEGY 22. THE COMMISSION ENDORSES THE GOVERNOR'S PROPOSED PACIFIC RIM FELLOWSHIP PROGRAM AND ENCOURAGES THE ACTIVE PARTICIPATION OF BOTH PUBLIC AND INDEPENDENT POSTSECONDARY INSTITUTIONS IN ALASKA TO FOSTER SUCH AN EXCHANGE OF STUDENTS BETWEEN PACIFIC RIM COUNTRIES.

An exchange program between students of Pacific Rim countries and Alaska residents would promote cultural and economic relationships and enhance trade in areas of mutual interest to Alaska and the Pacific Rim. Postsecondary institutions should take advantage of this opportunity to encourage Alaska students to study for one to two years around the Pacific Rim and, in return, to attract a high quality, culturally-diverse student body.

To achieve the maximum benefits from such an exchange, Alaska institutions should seek to use foreign students as an educational resource. Participating students could be required by receiving institutions to provide an educational service to the host community. Such a service could include: assisting the college or university with orientation programs for other foreign students; cultural seminars for Alaska students and faculty; advising Alaska businesses with import/

export interests; advising high school students; and assisting local secondary and postsecondary schools with development of curriculum regarding foreign countries and cultures.

Alaska institutions should actively recruit sponsorships from the private sector to assist exchange students in meeting educational costs associated with their plan of study, and thus reduce the cost to the general fund for these fellowships. Any donations from private industry, for example, could help promote long-term economic development and trade. Institutions could also play an active role in promoting the concept of Pacific Rim exchanges at foreign institutions, to encourage the acceptance of Alaska students and thus foster inter-institutional cooperative agreements.

There are currently no government sources available for foreign students in need of financial assistance. In an era of declining budgets, however, it will be up to our institutions to insure that Alaska benefits from expending funds for Pacific Rim exchanges by turning individual student experiences into educational resources for the state.

A copy of the Pacific Rim Fellowship legislation in its most recent form is included in Appendix H in Volume II.

\* \* \* \* \*

STRATEGY 23. THE WICHE STUDENT EXCHANGE PROGRAM, THE WICHE REGIONAL GRADUATE EDUCATION PROGRAM AND THE WAMI MEDICAL EDUCATION PROGRAM SHOULD BE CONTINUED AND EXPANDED WHERE APPROPRIATE TO IMPROVE ACCESS TO GRADUATE AND PROFESSIONAL TRAINING OPPORTUNITIES.

The Western Interstate Commission for Higher Education (WICHE) has long been seen as a mechanism by which to provide access to more learning opportunities for Alaskans in fields of study not available in the State. WICHE promotes the interstate sharing of higher education resources to help meet the manpower needs of the 13 western states. The WICHE Student Exchange Program gives Alaska residents access to 16 fields of professional and graduate education not available in Alaska. Alaska students receive preferential admissions consideration at WICHE-participating schools in 12 states and pay reduced tuition. The reduced tuition is either the in-state rate at public institutions, or about one-third the usual cost at private schools. Students receive no direct payment. Instead, the State of Alaska pays the WICHE schools a fee for each student which covers the non-resident portion of the tuition and a portion of the institution's operating costs. This support fee is established annually by WICHE Commissioners from the western states. The amount of the fee varies considerably depending upon the field of study. A list of support fees for each field is found in Appendix H in Volume II.

In recommending careful consideration of the development of new in-state graduate programs, the Commission simultaneously encourages Alaska's higher education institutions to look to existing eligible WICHE programs as a means of determining what graduate fields are most needed by the state. In addition, appropriate undergraduate programs in WICHE-related



fields should be strengthened at in-state schools to insure that Alaskans are well-prepared to enter advanced professional training offered out-of-state.

Alaskan institutions are encouraged to expand their participation in the WICHE Regional Graduate Education Program which makes graduate programs unique to the region available at in-state rates to other WICHE states' students. This WICHE regional exchange program provides lower cost access to fields of study of importance to the region and the State. Alaska realizes the benefit when its own students (and out-of-state students as well) return to Alaska to practice their professions. Currently, the University of Alaska, Fairbanks, for example, makes its Cold Regions Studies PH.D. program available at in-state tuition rates to students from other western states. By making additional graduate offerings available, more out-of-state students will be attracted to Alaska's programs, and the state will benefit from new talents and educational resources.

The WAM. Program provides medical education for students in Washington, Alaska, Montana and Idaho. Under the Alaska portion of the program, Alaska residents accepted at the University of Washington, School of Medicine register concurrently at the University of Alaska and the University of Washington. Fifteen places in each class are reserved for Alaska residents and the first year of medical training is on the Fairbanks campus. Students attend the second and third years in Seattle. Their remaining medical school training is conducted either in Seattle or at clinical units in WAMI states. During the entire program, Alaska residents pay resident tuition.

The WAMI program is an excellent opportunity for Alaska residents and a resource for the state. The recent addition of five places for Alaska citizens by the legislature recognized the important contribution the program has made to Alaska's health community.

\* \* \* \* \*

STRATEGY 24. THE ALASKA STUDENT LOAN PROGRAM IS AN EFFECTIVE MEANS TO ELIMINATE FINANCIAL BARRIERS TO POSTSECONDARY EDUCATIONAL AND TRAINING OPPORTUNITIES FOR ALASKANS. IT SHOULD CONTINUE TO PROVIDE ALASKANS OPEN CHOICE AND OPEN ACCESS TO THESE OPPORTUNITIES.

The Alaska Student Loan Program is one of the most successful programs offered by the State of Alaska. Its purpose is to provide low-interest loans to Alaskans wishing to pursue education and training at a postsecondary level. The program has grown from serving just over 1,000 Alaskans in 1971-72, to the current 1984-85 level of serving nearly 17,000 Alaskans. The true impact of this program is considerable. Financial assistance benefits not only the individual, but also the individual's family. Moreover, expanded educational opportunities are afforded the citizens of the State resulting in a more highly trained and educated citizenry. Alaska has chosen to invest in the education of its people. Through these loans, which are in large part repayable to the State, Alaska has committed itself to providing opportunities and access to all those residents seeking postsecondary education.



The Commission believes the State of Alaska can make no better commitment of resources than investing in the education of its citizens. Direct support of Alaska's public elementary, secondary, and postsecondary school systems is vital to the State's continued growth and development. It is in the best interest of the state to provide access to these educational resources for the citizens of Alaska.

The best method of assuring access and opportunity is through the direct provision of educational services, but this is not always practical or possible, particularly at the postsecondary level. Therefore, the most effective and efficient method in attaining these goals of access and opportunity is through a system of low interest loans which allow the students to choose the educational setting most appropriate for their particular needs. The Alaska Student Loan Program is such a system.

So that the legislature, the governor's office, and the citizens of Alaska are fully cognizant of the impact of the loan program, the Commission will continue to research and explore those issues which relate to the effectiveness and efficiency of the program. The issues include the return rate of loan recipients, the students' fields of study, the efficacy of loan forgiveness and the fiscal impact of differing interest rates.

The Commission endorses and recommends the continuation and maximum support of the Alaska Student Loan Program. The freedom of choice and educational opportunity available to Alaskans under this program should be vigorously supported and preserved.

## REFERENCES

- The Admissions Strategist, College Entrance Examination Board, New York, 1984.
- Alaska Taxable, Alaska Department of Community and Regional Affairs, Volume XXIV, January 1985.
- Astin, Alexander W., "Excellence and Equity: Achievable Goals for American Education," National Forum: The Phi Kappa Phi Journal, Vol. LXIV, No. 2, Spring 1984, pp. 24-29.
- Astin, Alexander, and Peter Ewell, "The Value-Added Debate . . . Continued," AAHE Bulletin, Volume 37, Number 8, April 1985, pp. 11-13.
- Attrition and Retention of First-Time Full-Time Students in Two-Year and Baccalaureate Degree Programs, Class of 1974, Office of Institutional Research Report No. 9-76, State University of New York, May 1976.
- Balz, Frank J., Sources of State Support for Independent Higher Education, 1982-83, National Institute of Independent Colleges and Universities, Washington, D.C., 1983.
- Black, William C., "Financing Community Colleges," Business Office, October 1984, pp. 27-30.
- Bogen, Judith R., "Retention Update, Spring 1981," College and University, Volume 57, Number 3, Spring 1982, pp. 289-292.
- Bowen, Howard R., The Costs of Higher Education, Jossey-Bass, San Francisco, 1980.
- Bowen, Howard R. (ed.), Evaluating Institutions for Accountability, Jossey-Bass Publishers, San Francisco, 1974.
- Bradberry, Bruce M., "Administering Innovative Academic Credit," College and University, Volume 57, Number 4, Summer 1982, pp. 371-405.
- Breneman, David W., and Susan C. Nelson, Financing Community Colleges: An Economic Perspective, The Brookings Institution, Washington, D.C., 1981.
- Breneman, David W., et al. (eds.), Public Policy and Private Higher Education, The Brookings Institution, Washington, D.C., 1978.
- Brinkman, Paul T., "Factors Affecting Instructional Costs at Major Research Universities," The Journal of Higher Education, Volume 52, Number 3, May/June 1984, pp. 265-279.
- Claxton, Charles S., and Yvonne Ralston, Learning Styles: Their Impact on Teaching and Administration, AAHE-ERIC/Higher Education Research Report No. 10, Washington, D.C., 1978.

Creative Financing for Higher Education Facilities and Equipment, State  
Higher Education Executive Officers, Denver, 1985.

Cross, K. Patricia, Adult Learning: State Policies and Institutional  
Practices, ASHE-ERIC Higher Education Research Report No. 1,  
Washington, D.C., 1984.

Dallam, Jerald W., et al., "Persistence at the Regents' University of  
Iowa: A Summary of Four Studies Covering Twenty Years,"  
College and University, Volume 60, Number 1, Fall 1984;  
pp. 5-20.

A Delphi Forecast of Alaska's Development: The Year 2000 & Beyond,  
Alaska Department of Commerce and Economic Development, 1983.

Directory of Postsecondary Educational Institutions in Alaska, Alaska  
Commission on Postsecondary Education, Juneau, 1984.

Effectiveness of Remedial Programs, New Jersey Basic Skills Council,  
Department of Higher Education, January 18, 1985.

Eldred, Marilou Denbo, and Catherine Marienau, Adult Baccalaureate  
Programs, AAHE-ERIC/Higher Education Research Report No. 9,  
Washington, D.C., 1979.

El-Khawas, Elaine, Campus Trends, 1984, Higher Education Panel Report  
Number 65, A Survey of the American Council on Education,  
February 1985.

Eurich, Nell P., Corporate Classrooms, The Learning Business, The Carnegie  
Foundation for the Advancement of Teaching, Princeton, 1985.

Florida Statewide Course Numbering System: An Overview, Florida  
Department of Education, Tallahassee, June 1984.

Folger, John K., Catalog of Changes: Incentives for Quality and  
Management Flexibility in Higher Education, Education  
Commission of the States, Denver, 1984.

FY86 Operating and Capital Budget Request, University of Alaska,  
October 19, 1984.

FY87-88 Planning Statement, University of Alaska, Fairbanks, 1985.

Halstead, D. Kent, Statewide Planning in Higher Education, U.S.  
Government Printing Office, Washington, D.C., 1974.

Healey, T.M., "Rural Education Needs Assessment: Issues, Concerns and  
Recommendations," unpublished report, January 1985.

Hodgkinson, Harold L., "Guess Who's Coming to College," Academe, Volume  
69, Number 2, March-April 1983, pp. 13-20.

Hoenack, Stephen A., "Pricing and Efficiency in Higher Education," The Journal of Higher Education, Volume 53, Number 4, July/August 1982, pp. 403-418.

Hoy, John C., and Melvin H. Bernstein (eds.), Financing Higher Education, Auburn House, Boston, 1981.

Hu, Michael, "Determining the Needs and Attitudes of Non-Traditional Students," College and University, Volume 60, Number 3, Spring 1985, pp. 201-209.

In Pursuit of Degrees with Integrity: A Value Added Approach to Undergraduate Assessment, American Association of State Colleges and Universities, Washington, D.C., 1984.

Jonson, Richard W., State Policy Issues Affecting Independent Higher Education, National Institute of Independent Colleges and Universities, Washington, D.C., 1980.

Lawrence, Judith K., and Kenneth C. Green, A Question of Quality: The Higher Education Ratings Game, AAHE-ERIC/Higher Education Research Report No. 5, Washington, D.C., 1980.

Lenning, Oscar T., The Outcomes Structure: An Overview and Procedures for Applying it in Postsecondary Education Institutions, National Center for Higher Education Management Systems, Boulder, 1977.

Lenning, Oscar T. (ed.), Improving Educational Outcomes, Jossey-Bass Publishers, San Francisco, 1976.

Lehmann, Timothy and Peter J. Ristuben, "Colleges in Partnership: Four Ventures in Successful Program Collaboration," The Journal of Higher Education, Volume 54, Number 4, July/August 1983, pp. 381-398.

Lonabocker, Louise, "Can an Institution Construct a Dropout Profile?" College and University, Volume 58, Number 1, Fall 1982, pp. 76-84.

A Manual for Conducting Student Attrition Studies in Institutions of Postsecondary Education, National Center for Higher Education Management Systems at WICHE, Boulder, 1976.

Martin, William J., Secondary Postsecondary Articulation Processes in Technical Programs: A Variation of the Two-Plus-Two Technical Preparation Concept, National Conference on Technical Education, Charleston, 1985.

McLaughlin, Gerald, et al., "Size and Efficiency," Research in Higher Education, Volume 12, Number 1, 1980., pp. 53-66.

- Mercurio, Joseph A., et al., "College Credit Earned in High School: Comparing Student Performance in Project Advance and Advanced Placement," College and University, Volume 59, Number 1, Fall 1983, pp. 74-86.
- Mercurio, Joseph A., et al., "College Courses in the High School: A Four-Year Followup of the Syracuse University Project Advance Class of 1977," College and University, Volume 58, Number 1, Fall 1982, pp. 5-18.
- Michalak, Jr., Stanley J., and Robert J. Friedrich, "Research Productivity and Teaching Effectiveness at a Small Liberal Arts College," The Journal of Higher Education, Volume 52, Number 6, November/December 1981, pp. 578-597.
- Mingle, James R., Measuring the Educational Achievement of Undergraduates: State and National Developments, State Higher Education Executive Officers, Denver, January 1985.
- Mondale, Walter, "The Challenges Facing American Education," Academe, Volume 68, Number 5, September-October 1982, pp. 8-12.
- Mortimer, Kenneth P., and Michael L. Tierney, The Three "R's" of the Eighties: Reduction, Reallocation and Retrenchment, AAHE-ERIC/Higher Education Report No. 4, Washington, D.C., 1979.
- Non-Traditional Self-Study: An Innovative Assessment Model, Northeast Missouri State University, Kirksville, 1984.
- Office of Facilities Planning and Construction, University of Alaska Capital Improvement Plan, University of Alaska, Fairbanks, 1985.
- Olson, Lawrence, The Public Stake in Independent Higher Education, National Institute of Independent Colleges and Universities, Washington, D.C., 1982.
- Pascarella, Ernest T., and Patrick T. Terenzine, "Predicting Freshman Persistence and Voluntary Dropout Decisions from a Theoretical Model," The Journal of Higher Education, Volume 51, Number 1, January/February 1980, pp. 60-75.
- Patterson, Lewis D., Survival through Interdependence, AAHE-ERIC/Higher Education Research Report No. 10, Washington, D.C., 1979.
- Phipps, Ronald, "The Baccalaureate Reconsidered," College and University, Volume 57, Number 3, Spring 1982, pp. 299-306.
- Planning Assumptions for the University of Alaska, First Edition 1980-86, University of Alaska, Fairbanks, 1980.



Postsecondary Education in Rural Alaska, The Rural Education Task Force,  
April 1985.

Retention, Progression and Transfer at Maryland Public Four-Year  
Institutions, Volume I, State Board for Higher Education,  
Annapolis, April 1982.

Revenue Sources, Quarterly Update, Alaska Department of Revenue, 1985.

Rugg, Edwin A., "Design and Analysis Considerations for Longitudinal  
Retention and Attrition Studies," College and University,  
Volume 58, Number 2, Winter 1983, pp. 119-134.

Sartorious, John, "High School Advanced Placement Program Position  
Paper," unpublished report, Salisbury, 1974.

Sharp, Laure M., and Carol P. Sosdean, "External Degrees, How Well Do  
They Serve Their Holders?" The Journal of Higher Education,  
Volume 50, Number 5, September/October 1979, pp. 615-649.

Shulman, Carol Herrnstadt, University Admissions: Dilemmas and  
Potential, AAHE-ERIC/Higher Education Report No. 5,  
Washington, D.C., 1977.

Silber, John R., The "Private" Contribution to Public Higher Education,  
Boston University, Boston, 1975.

Sixty-Nine Good Ideas: Responses to Changing Educational Needs by State  
Colleges and Universities, American Association of State  
Colleges and Universities, November 1983.

"State Planning: Will Proprietary Schools be Involved" Career Training,  
National Association of Trade and Technical Schools, Volume 1,  
Number 2, Summer 1984.

The States and Private Higher Education, A Report of the Carnegie Council  
on Policy Studies in Higher Education, Jossey-Bass Publishers,  
San Francisco, 1977.

Statewide Budget Office, University of Alaska FY86 Operating and Capital  
Budget Request, University of Alaska, Fairbanks, 1984.

Statewide Office of Institutional Planning, Statistical Summary,  
University of Alaska, Fairbanks, 1985.

Stauffer, Thomas M. (ed.), Quality-Higher Education's Principal  
Challenge, American Council on Education, Washington, D.C.,  
1981.

Student Financial Aid Programs, Annual Report, 1983-84, Alaska Commission  
on Postsecondary Education, Juneau, 1985.

Summer Sessions Associations' Joint Statistical Report, 1983, Association of University Summer Sessions, et al., 1983.

Survey of 1983-84 Alaska Student Loan Recipients, Alaska Commission on Postsecondary Education, Juneau, March 1984.

Thresher, B. Alden, College Admissions and the Public Interest, College Entrance Examination Board, New York, 1966.

Tinto, Vincent, "Limits of Theory and Practice in Student Attrition," The Journal of Higher Education, Volume 53, Number 6, November/December 1982, pp. 687-700.

Vocational Improvement Practices, The VIP Program, State of Connecticut Board of Education, 1983.

Vermilye, Dyckman W. (ed.), Individualizing the System, Jossey-Bass Publishers, San Francisco, 1976.

West, Cameron, and James Olliver, "Private Colleges and Universities: A Sound Investment for the States," Survey of Business, July/August 1975, pp. 22-25.

Wilson, Robert A. (ed.), Survival in the 1980's: Quality, Mission, and Financing Options, Center for the Study of Higher Education, University of Arizona, Tucson, 1983.

Young, Rodney, "Seventeen Year Graduation Study of 1963 Freshman at the University of New Mexico," College and University, Volume 57, Number 3, Spring 1982, pp. 279-288.